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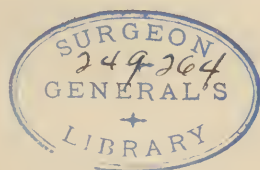
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A REFERENCE LIST
OF
BIBLIOGRAPHIES

CHEMISTRY, CHEMICAL TECHNOLOGY
AND CHEMICAL ENGINEERING
PUBLISHED SINCE 1900

COMPILED BY
JULIAN ARELL SOHON
of the Engineering Societies Library
AND
WILLIAM L. SCHAAF



NEW YORK
THE H. W. WILSON COMPANY
1924

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Printed in the United States of America
January 1924

"How much useful information is lost by the scattered forms in which it is ussered [issued] to the world. How many solitary students spend half their lives in making discoveries, which had been perfected a century before their time, for want of a condensed exhibition [exhibit] of what is known."

BUFFON

PREFACE

This reference list of chemical bibliographies was started about three years ago and is restricted to bibliographies published since 1900. A few earlier bibliographies have been included because of their importance or historic interest. On account of the high cost of publishing bibliographic material it has been necessary to limit the size of this book.

The compilers will appreciate criticisms, suggestions, and any corrections. They also wish to extend their thanks to all who encouraged and helped them in the compilation of this book. They wish to mention especially in this regard, H. W. Craver, H. W. Wilson, M. V. Sohon and M. O. Kolbe.

New York
1923

J. A. S.
W. L. S.

ABBREVIATIONS

- Am Arch. American Architect and the Architectural Review.
 Am Ceramic Soc J. Journal of the American Ceramic Society.
 Am Ceramic Soc Trans. Transactions of the American Ceramic Society.
 Am Chem Soc J. Journal of the American Chemical Society.
 Am Electrochem Soc Trans. Transactions of the American Electrochemical Society.
 Am Gas Inst Pro. Proceedings of the American Gas Institute.
 Am Gas Light J. American Gas Light Journal.
 Am Inst Arch J. Journal of the American Institute of Architects.
 Am Inst Elec Eng Pro. Proceedings of the American Institute of Electrical Engineers.
 Am Inst Homeopathy J. Journal of the American Institute of Homeopathy.
 Am Inst Metals Trans. Transactions of the American Institute of Metals.
 Am Inst Min Eng Bul. Bulletin of the American Institute of Mining and Metallurgical Engineers.
 Am Inst Min Eng Trans. Transactions of the American Institute of Mining and Metallurgical Engineers.
 Am J Public Health. American Journal of Public Health.
 Am Leather Chem Assoc J. Journal of the American Leather Chemists Association.
 Am Railway Eng Assoc Pro. Proceedings of the American Railway Engineering Association.
 Am Soc Heat & Vent Eng J. Journal of the American Society of Heating and Ventilating Engineers.
 Am Soc Mech Eng J. Journal of the American Society of Mechanical Engineers.
 Am Soc Naval Eng J. Journal of the American Society of Naval Engineers.
 Am Soc Refrig Eng J. American Society of Refrigerating Engineers Journal.
 Am Soc Steel Treat Trans. Transactions of the American Society for Steel Treating.
 Am Soc Test Mat Pro. Proceedings of the American Society for Testing Materials.
 Am Water Works Assoc J. Journal of the American Water Works Association.
 Am Weld Soc J. Journal of the American Welding Society.
 Am Woodpreservers' Assoc J. Journal of the American Woodpreservers' Association.
 Annalen der Physik. Annalen der Physik.
 Annales de Chimie. Annales de Chimie.
 Annales de l'Energie. Annales de l'Energie.
 Arch des Sci phys et nat. Archives des Sciences physiques et naturelles.
 Beama. Beama.
 Bell System Tech J. Bell System Technical Journal.
 Bol del Petroleo. Boletín del Petroleo.
 Boston Nat Assoc Cotton Mfgs Trans. Transactions of the Boston National Association of Cotton Manufacturers.
 British Non Ferrous Metals Assoc Bul. Bulletin of the British Non Ferrous Metals Association.
 California State Min Bur Bul. California State Mining Bureau Bulletin.
 Canad Chem & Met. Canadian Chemistry and Metallurgy.
 Canad Chem J. Canadian Chemical Journal.
 Canada Dept Int. Forestry branch bul. Canada Department of the Interior. Forestry Branch Bulletin.
 Canada Dept Mines, Mines branch. Canada, Department of Mines, Mines Branch.
 Canadian Min Inst Bul. Bulletin of the Canadian Mining Institute.
 Canadian Min Inst Trans. Transactions of the Canadian Mining Institute.
 Chaleur & Ind. Chaleur et Industrie.
 Chem & Ind. Chemistry and Industry. (Formerly Journal of the Society of Chemical Industry).

- Chem & Met Eng. Chemical and Metallurgical Engineering.
 Chem Engr. Chemical Engineer.
 Chem Zeit. Chemiker Zeitung.
 Chemisch Weekblad. Chemisch Weekblad.
 Chimie & Ind. Chimie et Industrie.
 Colo Bur Mines Bul. Colorado Bureau of Mines. Bulletin.
 Colo Sch Mines Q. Quarterly of the Colorado School of Mines.
 Color Tr J. Color Trade Journal.
 Cornell U Agr Expt Sta mem. Cornell University Agricultural Experiment Station, memoirs.
 Dept Commerce Special Agent Series. U.S. Department of Commerce, Special Agent Series.
 Dinglers Polytech J. Dinglers polytechnisches Journal.
 Econ Geol. Economic Geology.
 Edel Erden & Erze. Edel Erden und Erze.
 Electrochemist & Metallurgist. Electrochemist and Metallurgist.
 Eng & Min J. Engineering and Mining Journal.
 Eng N. Engineering News.
 Eng Soc W Pa Pro. Proceedings of the Engineering Society of Western Pennsylvania.
 Faraday Soc Trans. Transactions of the Faraday Society.
 Forest Products Laboratory Tech Notes. Forestry Products Laboratory, Technical notes.
 Forging & Heat Treating. Forging and Heat Treating.
 Foundry. Foundry.
 Gas Age. Gas Age.
 Gas und Wasserfach. Gas und Wasserfach.
 Gen Elec Co, Edison Lamp Works, Lighting data bul. General Electric Company, Edison Lamp Works, Lighting Data Bulletin.
 Gen Elec R. General Electric Review.
 Giesserei Zeit. Giesserei Zeitung.
 Gior di Chim ind. Giornale di Chimica industriale ed applicata.
 Ill U Eng Expt Sta Bul. Bulletin of the Illinois University Engineering Experiment Station.
 Illum Eng Soc Trans. Transactions of the Illuminating Engineering Society.
 Ind & Eng Chem. Industrial and Engineering Chemistry.
 Inst Metals J. Journal of the Institute of Metals.
 Inst Min & Met Trans. Transactions of the Institution of Mining and Metallurgy.
 Inst Min Eng Trans. Transactions of the Institution of Mining Engineers.
 Inst Elec Eng J. Journal of the Institution of Electrical Engineers.
 Inst Petr Tech J. Journal of the Institution of Petroleum Technologists.
 Int Eng Cong San Francisco Trans. Transactions of the International Engineering Congress at San Francisco.
 Iowa State Col Agr & Mech Arts Bul. Iowa State College of Agriculture and Mechanic Arts. Engineering Experiment Station, Bulletin.
 Iron & Steel Inst CSM. Iron and Steel Institute, Carnegie Scholarship Memoirs.
 Iron & Steel Inst J. Journal of the Iron and Steel Institute.
 J Agr Research. Journal of Agricultural Research.
 J de Chimie Physique. Journal de Chimie Physique.
 J Fr Inst. Journal of the Franklin Institute.
 J für Gasbel. Journal für Gasbeleuchtung.
 J Gas Light. Journal of Gas Lighting.
 J Ind & Ind Chem. Journal of Industrial and Engineering Chemistry.
 J Phys Chem. Journal of Physical Chemistry.
 J Textile Inst. Journal of the Textile Institute.
 Jahrb der Radioaktivität. Jahrbuch der Radioaktivität und Elektronik.
 Jernkontorets Annaler. Jernkontorets Annaler.
 Kansas City Test Lab Bul. Kansas City Testing Laboratory, Bulletin.
 Kansas U Geol Sur Rept. Reports of the University Geological Survey of Kansas.
 Kolloid Zeit. Kolloid Zeitschrift.
 Kunststoffe. Kunststoffe.
 Louisiana Planter. Louisiana Planter and Sugar Manufacturer.
 Mellon Inst Smoke Invest Bul. Mellon Institute Smoke Investigation Bulletin.
 Mem y Rev de la Soc Cien Antonio Alzate. Mexico. Memorias y Revista de la Sociedad Científica "Antonio Alzate."
 Metal Ind (London). Metal Industry. London.

- Metall und Erz. Metall und Erz.
 Mexico, dept de Talleres graf de la Sec de Fomento. (Mexico) Departamento de Talleres Graficos de la Secretaria de Fomento.
 Mineral Ind. Mineral Industry.
 Missouri U Bul. University of Missouri Bulletin.
 Missouri U Sch Mines & Met Bul. School of Mines and Metallurgy. University of Missouri. Bulletin.
 Mitt Prüf Wasserversorg Berlin. Mitteilungen aus der königlichen Prüfungsanstalt für Wasserversorgung und Abwässerbeseitigung zu Berlin.
 Munic Eng. Municipal Engineering.
 Nat Assoc of Cotton Mfgs Trans. Transactions of the National Association of Cotton Manufacturers.
 Nat Assoc Wool Mfgs Bul. Bulletin of the National Association of Wool Manufacturers.
 Nat Research Council Bul. Bulletin of the National Research Council.
 Nat Research Council repr & circ ser. National Research Council. Reprint and Circular Series.
 New England Water Works Assoc J. Journal of the New England Water Works Association.
 New York Public Library Bul. Bulletin of the New York Public Library.
 New Zealand J Sci Tech. New Zealand Journal of Science and Technology
 Nuovo Cimento. Nuovo Cimento.
 Optical Soc Am J. Journal of the Optical Society of America.
 Outillage. Outillage.
 Paint & Varnish Soc Pa. Paint and Varnish Society Papers.
 Pan Am Sci Cong Washington D.C. Second Pan-American Scientific Congress, Washington D.C. 1915-1916.
 Paper. Paper.
 Penn State College Chem Dept Bul. Pennsylvania State College. Chemistry department bulletin.
 Philippine J Sci. Philippine Journal of Science.
 Phys Rev. Physical Review.
 Pittsburgh Carnegie Library mo bul. Pittsburgh Carnegie Library monthly bulletin.
 Power. Power.
 Prof Mem Corps of Engrs U S Army. Professional Memoirs of the Corps of Engineers of the United States Army.
 Refrigerating Eng. Refrigerating Engineering.
 Rev d'Électrochimie. Revue d'Electrochimie et d'Electrometallurgie.
 Rev de Met ext. Revue de Métallurgie. Extraits.
 Rev de Met mem. Revue de Métallurgie. Mémoires.
 Rev gen des Sci. Revue générale des Sciences pures et appliquées.
 Soc Auto Eng Bul. Society of Automotive Engineers. Bulletin.
 Soc Chem Ind annual repts appl chem. Society of Chemical Industry annual reports of applied chemistry.
 Soc Chem Ind J. Journal of the Society of Chemical Industry.
 South Dakota Sch Mines Bul. South Dakota School of Mines Bulletin.
 Special Libraries. Special Libraries.
 Stahl & Eisen. Stahl und Eisen.
 Stevens Ind. Stevens Indicator.
 Sugar. Sugar.
 Texas U Bul. University of Texas Bulletin.
 Tonindustrie Zeit. Tonindustrie Zeitung.
 Smithsonian mis col. Smithsonian Institution Publications. Miscellaneous collections.
 U S Bur Foreign & Dom Com misc ser. U.S. Bureau of Foreign and Domestic Commerce. Miscellaneous series.
 U S Bur Mines Bul. U.S. Bureau of Mines Bulletin.
 U S Bur Mines repts invest. U.S. Bureau of Mines reports of investigations.
 U S Bur Mines Tech Pa. U.S. Bureau of Mines technical paper.
 U S Bur Stand Bul. Bulletin of the U.S. Bureau of Standards.
 U S Bur Stand Circ. Circular of the U.S. Bureau of Standards.
 U S Bur Stand Sci Pa. Scientific Papers of the U.S. Bureau of Standards.
 U S Dept Agr Bul. U.S. Department of Agriculture Bulletin.
 U S Dept Commerce spec agent series. U.S. Department of Commerce. Special agent series.
 U S Forest Service Bul. U.S. Forest Service Bulletin.

CHEMICAL BIBLIOGRAPHIES

- U S Geol Sur Bul. United States Geological Survey Bulletin.
 U S Library Cong Div of Biblio. United States Library of Congress.
 Division of Bibliography.
 U S Public Health Bul. United States Public Health Bulletin.
 U S Tariff Comm, Tariff information series. United States Tariff Com-
 mission. Tariff Information Series.
 Vie Tech & Ind. Vie technique et industrielle.
 Washington Geol Sur Bul. Washington Geological Survey Bulletin.
 Wisconsin U Eng Ser Bul. Bulletin of the University of Wisconsin. En-
 gineering Series.
 Wisconsin U Sci Ser Bul. Bulletin of the University of Wisconsin. Science
 Series.
 Zeit anorg Chem. Zeitschrift für anorganische und allgemeine Chemie.
 Zeit für angew Chem. Zeitschrift für angewandte Chemie.
 Zeit f d ges Schiess und Sprengstoffwesen. Zeitschrift für das gesamte
 Schiess- und Sprengstoffwesen.
 Zeit f Elektrochem. Zeitschrift für Elektrochemie und angewandte
 physikalische Chemie.
 Zeit f Instrumentenkunde. Zeitschrift für Instrumentenkunde.
 Zeit f Metallkunde. Zeitschrift für Metallkunde.
 Zellstoff und Papier. Zellstoff und Papier.

Bibliographies of Chemistry, Chemical Technology and Chemical Engineering

Abrasives

Emery and the emery industry. 1912. A. Haenig. Scott, Greenwood. London. 103p.

A list of 14 references is given on p 100.

Garnet. 1922. Raymond B. Ladoo. U S Bur Mines repts invest 2347. 16p mimeographed.

On p 15-16 there is a list of 23 references on the resources, mining, milling and utilization of garnet.

Absorption

Absorption of nitrous gases. 1923. H. W. Webb. Longmans, N.Y. 372p.

Gives bibliographical footnotes on the chemistry of the oxides of nitrogen. Patents on nitric acid and synthetic nitrates are also given in footnotes.

Effect of soluble salts on the absorption of phosphates by soils. 1911. Harrison E. Patten. J Phys Chem v 15, p 639-58.

On p 639 there are about 20 references to the literature of the U.S. Dept Agriculture on the absorption of soluble bodies from solution by soils and the physical and chemical conditions produced by absorption processes.

Energy changes accompanying absorption. 1907. Harrison E. Patten. Am Electrochem Soc Trans v 11, p 387-405.

Contains 50 bibliographical footnotes.

Ueber die absorption organischer farbstoffe durch kolloid veranlagte bodenarten, tone, usw. 1916. Wilhelm Graf. Kolloid Zeit v 19, p 165-72.

14 references are given on p 172 on the absorption of organic dyes by clay, etc.

Acenaphthene

Chemistry of acenaphthene and its derivatives. 1921. Dorothy A. Hahn and Harriet E. Holmes. J Ind & Eng Chem v 13, p 822-30.

Has 117 bibliographical footnotes.

Acetic acid

Fabrication de l'acide acétique synthétique au départ du carbure du calcium. 1921. Maurice Deschiens. Chimie & Ind v 5, p 526-28.

Has a list of articles and German, French, English, and U.S. patents on the manufacture of acetic acid and its compounds from acetylene.

Technologie der holzverkohlung, unter besonderer berücksichtigung der herstellung von sämtlichen halb- und ganzfabrikaten aus den erstlings-desstillaten. 1910. M. Klar. Springer, Berlin. 429p.

On p 404-19 is a list of about 300 patents on the distillation of wood, acetic acid, acetone, methyl alcohol, and turpentine. German, Austrian, English, French and U.S. patents are listed.

Acetone

Technologie der holzverkohlung, unter besonderer berücksichtigung der herstellung von sämtlichen halb- und ganzfabrikaten aus den erstlings-desstillaten. 1910. M. Klar. Springer, Berlin. 429p.

On p 404-19 is a list of about 300 patents on the distillation of wood, acetic acid, acetone, methyl alcohol, and turpentine. German, Austrian, English, French and U.S. patents are listed.

Acetylene

Acetylen: seine eigenschaften, seine herstellung und verwendung. 1911. J. H. Vogel. Spamer, Leipzig. 294p.

A list of about 75 references is given on p 279-81.

Calcium carbide and acetylene. 1917. George G. Pond. Penn State College Chem dept bul.

Bibliography on p 121-39 comprises a list of the principal published works relating to calcium carbide, acetylene, and its applications; about 80 books and more than 700 references to periodical literature.

Fabrication de l'acide acétique synthétique au départ du carbure de calcium. 1921. Maurice Deschiens. Chimie & Ind v 5, p 526-8.

Has a list of articles and German, French, English, and U.S. patents on the manufacture of acetic acid and its compounds from acetylene.

Acetylene welding. *See* Welding

Acids

See also under name of acid, as Hydrochloric acid.

Acids, alkalies, salts, etc. 1916. H. A. Auden. Soc Chem Ind annual repts appl chem v 1, p 108-32.

Contains 147 footnote references mainly to patents covering the year 1916. Abstracts are given in the text. Covers acids, alkalies and nitrogen fixation.

Acids, alkalies, salts, etc. 1917. H. A. Auden. Soc Chem Ind annual repts appl chem v 2, p 175-203.

Text contains 167 abstracts including many patents for the year 1917. References are given in footnotes.

Acids, alkalies, salts, etc. 1918. H. A. Auden. Soc Chem Ind annual repts appl chem v 3, p 162-83.

Text contains 141 abstracts of the literature for the year 1918, including patents. References are given in footnotes.

Acids, alkalies, salts, etc. 1919. Thomas Ewan. Soc Chem Ind annual repts appl chem v 4, p 149-69.

The text contains 149 abstracts of the literature for the year 1919. References are given in footnotes.

Acids—Continued

Acids, alkalies, salts, etc. 1920. Thomas Ewan. Soc Chem Ind annual repts appl chem v 5, p 162-84.

Text contains 188 abstracts of the literature for the year 1920. References are given in footnotes.

Acids, alkalies, salts, etc. 1921. P. Parrish. Soc Chem Ind annual repts appl chem v 6, p 166-97.

The text contains 150 abstracts of the literature for the year 1921. References are given in footnotes.

Aconite

Aconite. 1909. Frank O. Taylor. J Ind & Eng Chem v 1, p 549-67.

On p 565-7 there is a list of 69 references from 1890 to 1909.

Acridine

Acridine dyestuffs. 1919. G. Heyl. Color Tr J v 5, p 79-85.

Bibliographical references are given throughout the text. There are also about 30 German patents with abstracts given on p 81-2.

Actinochemistry

Studies in actinochemistry. 1917. Horace H. Curtis. J Fr Inst v 184, p 617-36, 849-84.

Has 249 bibliographical footnotes on actinochemistry, including the action of chlorine.

Adhesion

Concentrating ores by flotation. 1916. Theodore J. Hoover. Mining Magazine, London. 320p.

There is a very complete bibliography on flotation including references on capillary action, surface tension, and adhesion from 1900 to 1913 on p 201-54. About 2500 references. On p 290-312 there are about 600 references on the same subjects from 1914 to 1916.

Adhesives

See also Cement, glue

Chemistry and technology of gelatine and glue. 1922. Robert H. Bogue. McGraw-Hill. N.Y. 644p.

On p 340-4 there is a list of about 90 U.S. patents on casein adhesives.

Die in deutschland patentierten verfahren zur herstellung von klebstoffe (ausser leim). 1921. S. Halen. Kunststoffe v 11, p 81-3, 90-2, 99-100.

Gives a list of abstracts of German patents on adhesives other than glue.

Die während des krieges patentierten und bisher bekannt gewordenen erfindungen auf dem gebiete der kitt, leim, und klebmittelfabrikation. 1919. S. Halen. Kunststoffe v 9, p 129-31, 146-7.

Gives a list of patents with brief notes on the manufacture of cements, adhesives and glues.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. Kausch. Kunststoffe v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 150-2 there are about 30 annotated U.S. and foreign patents on plastics, adhesives, cork, linoleum and related compositions.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovey. Canada, Dept Int, Forestry branch bul 66, 193p.

A classified bibliography with notes on utilization of waste sulphite liquor, including its use as sources of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Adsorption

See also Colloids, occlusion

Effect of adsorption on the physical character of precipitated barium sulphate. 1917. Harry B. Weiser. J Phys chem v 21, p 314-33.

Has 29 bibliographical footnotes.

On negative adsorption. 1914. A. M. Williams. Faraday Soc Trans v 10, p 155-9.

Has 11 bibliographical footnotes.

Theories of occlusion; and the sorption of iodine by carbon. 1919. James W. McBain. Faraday Soc Trans v 14, p 202-12. 14 references are given on p 211-12.

Agricultural chemistry

See also Fertilizers, foods, soils, etc.

Agricultural chemistry. 1918. E. J. Russell. Soc Chem Ind annual repts appl chem v 3, p 342-61.

Reviews the literature for 1918 on fertilizers, soils, foods. 87 references are given in footnotes.

Agricultural chemistry. 1919. E. J. Russell. Soc Chem Ind annual repts appl chem v 4, p 365-76.

Has 88 footnote references on fertilizers and other agricultural chemistry subjects.

Agricultural chemistry. 1920. E. J. Russell. Soc Chem Ind annual repts appl chem v 5, p 370-88.

Abstracts the principal literature of 1920. 69 references are given in footnotes.

Plant products and chemical fertilizers. 1919. S. Hoare Collins. Van Nostrand, N.Y. 236p.

A general bibliography on p 223-4, of 50 references chiefly to text books. There are also references at the ends of the chapters on fertilizers, soils and their properties, plant foods, plant products, and feedstuffs.

Air conditioning

See also Air drying, dust removal, fumes, smoke prevention.

Air conditioning. 1914. Pittsburgh Carnegie Library monthly bul v 19, p 444-94.

A comprehensive bibliography of from 500 to 600 references on the conditioning of air supplies, including processes for cooling, washing, filtering, with apparatus; humidification, temperature control; conditioning of air for industrial and mechanical purposes.

Air drying

Improvements in the method of drying air for blast furnaces. 1912. Walter Bruce. Eng Soc W Pa Pro v 28, p 277-310.

There are 23 references on p 309-10, from 1904 to 1911.

Air flow

Compteurs de vapeur. 1922. Chaleur & Ind v 3, p 1702-6.

On p 1706 there are 24 references on the flow of air and steam, the density of steam, and steam meters.

Messung grosser gasmengen. 1922. L. Litinsky. Spamer, Leipzig. 274p.
On p 260-6 there are 153 references on the measuring of gas and air flow.

Air, liquid

Progress of investigations on liquid oxygen explosives. 1923. S. P. Howell and others. U S Bur Mines Tech Pa 294. 91p.

On p 81-5 there are 70 selected references on liquid air and 32 patents on liquid oxygen processes.

Airplane dope

See also Cellulose acetate

European practice in cellulose acetate and dopes during the war. 1921. Philip Drinker. J Ind & Eng Chem v 13, p 831-6.

On p 835-6 there are more than 38 references to patents and literature on cellulose acetate and airplane dopes.

Albumin

Plastics and electrical molded insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 149-50 there are about 50 annotated U.S. and foreign patents on plastics, and compositions with gelatinous, albuminous and similar bases.

Albuminoids

Biochemical catalysis in life and industry; proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the end of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. Kausch. Kunststoffe v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Alchemistry

Lives of alchemystical philosophers based on materials collected in 1815 and supplemented by recent researches with a philosophical demonstration of the true principles of the magnum opus, or great works of the alchemical reconstruction, and some account of the spiritual chemistry. 1888. Arthur E. Waite. Redway, London. 306p.

"Alphabetic catalogue of works on hermetic philosophy and alchemy" on p 276-306.

Alcohol

See also Fermentation

Alcoholic fermentation. 1911. Arthur Harden. Longmans, Green, London. 128p.

On p 115-26 is a bibliography of 272 references.

A short bibliography of sulphite alcohol. A list of articles on the production of

alcohol from sulphite waste liquor. 1919. C. J. West. Paper v 25, no 13, p 19.
Has 100 references.

Bibliography of the literature on alcohol and alcoholometry. 1913. E. C. McKelvy. U S Bur Stand Bul v 9, p 436-74.

Contains 1376 references arranged chronologically from 1769 to 1913 with subject index.

Denatured or industrial alcohol, a treatise on the history, manufacture, composition, uses, etc. 1907. Rufus F. Herrick. Wiley, N.Y. 516p.

A list of 25 references is given on p 493. About 100 patents are listed on p 494-7 relating to the manufacture of alcohol and alcohol distilling apparatus.

Hartspiritus. 1916. A. v. Unruh. Kunststoffe v 6, p 253-7.

Has 11 footnote references and a bibliography of 21 patents on solid alcohol.

Manufacture of ethyl alcohol from wood waste. 1922. F. W. Kressmann. U S Dept Agr Bul 983. 101p.

On p 98-100 there are about 140 patents, and on p 101 there are 53 references on the manufacture of alcohol and other products from wood.

Method of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 32-3, 48-9 there are 40 references from 1904 to 1911 on the analysis of alcohols and aldehydes.

Molasses fermentation. 1920. Sugar v 22, p 633-4, 668.

A bibliography of about 75 references on molasses fermentation and the manufacture of alcohol from molasses.

Motor fuels. 1923. Eugene H. Leslie. Chem Cat Co, N.Y. 681p.

On p 395-7 there are about 80 references on cracking processes; on p 504-8 about 120 references on alcohol and on p 225-6 there are about 30 references on refinery equipment and operation. Also has numerous bibliographical footnotes and additional references at the ends of the chapters.

Power alcohol, its production and utilization. 1922. G. W. Monier-Williams. Frowde, London. 323p.

Extensive lists of references are found at the end of each chapter.

Utilization de la fermentation alcoolique comme source de glycérine. 1921. K. Schweizer. Chimie & Ind v 6, p 149-59.
Has 104 bibliographical footnotes on the preparation of glycerine.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovey. Canada, Dept Int, Forestry branch bul 66, 193p.

A classified bibliography with notes, on the utilization of waste sulphite liquors, including its use as sources of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Aldehydes

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 32-3, 48-9 there are 40 references from 1904 to 1911 on the analysis of alcohols and aldehydes.

Aldehydes—Continued

Patentierten verfahren zur herstellung löslicher harzartiger massen aus phenolen und aldehyden u.dgl. 1914. Oskar Kausch, Kunststoffe v 4, p 268-9.

A tabulation of patents with notes on the preparation of soluble resinous substances from phenols and aldehydes.

Soil aldehydes. 1918. J. J. Skinner. J Fr Inst v 186, p 723-41.

Bibliography of 85 references on p 737-41.

Alkali chlorides

Manufacture of chemicals by electrolysis. Alkali chlorides. 1923. A. Clarke. Beama v 12, p 348-55.

On p 355 there are 53 references to about 100 patents and articles.

Alkalies

Acids, alkalies, salts, etc. 1916. H. A. Auden. Soc Chem Ind annual repts appl chem v 1, p 108-32.

Contains 147 footnote references mainly to patents covering the year 1916. Abstracts are given in the text. Covers acids, alkalies and nitrogen fixation.

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The text contains 150 abstracts of the literature for the year 1921. References are given in footnotes.

Alkaloids

See also Belladonna, stramonium

Alkaloidal content of stramonium leaves. 1914. H. A. Langenhan. Wisconsin U Sci Ser Bul v 4, p 193-226.

Bibliography from 1891 to 1914 arranged chronologically of about 50 references with extensive notes and abstracts on p 211-25.

Alloys

See also name of alloy as Copper alloys, zinc, etc.

Bibliographie der metalllegierungen. 1903. M. Sack. Zeit anorg Chem v 35, p 249-328.

Has 880 references on alloys.

Bibliography of alloys: binary, ternary and quaternary systems whose equilibria have been investigated. 1917. Clar-

ence Estes. Chem & Met Eng v 16, p 73-82.

Gives references to the original literature and the references in chemical abstracts for about 420 different alloys.

Bibliography of alloys: binary, ternary and quaternary systems whose equilibria have been investigated. 1918. Clarence Estes. Chem & Met Eng v 18, p 312.

A supplement to the above bibliography. Has about 100 references.

Binäre bleilegierungen. 1922. J. Goebel. Zeit f Metallkunde v 14, p 449-56.

On p 455-6 there are 48 references on the physical properties and constitution of alloys.

Dichtemessungen von metallen und legierungen bei hohen temperaturen mit besonderer berücksichtigung des flüssigen zustandes. 1922. K. Bornemann and F. Sauerwald. Zeit f Metallkunde v 14, p 145-59.

On p 147 there are given 31 sources of data on expansion and density of solid and liquid brass, especially the Cu-Sn and Cu-Al systems.

Electrical resistivity of dilute metallic solid solutions. 1921. A. L. Norbury. Faraday Soc Trans v 16, p 570-96.

On p 595-6 there are 47 references on electrical resistivity data of alloys.

Electric furnaces for non-ferrous alloys. 1921. H. W. Gillett. Am Electrochem Soc Preprint 24, Apr 21, 1921, p 277-95.

A table of electric furnaces, giving number of furnaces, alloys used, furnace capacity, rating, etc., is given on p 278-85.

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Heusler alloys. 1912. A. A. Knowlton. Faraday Soc Trans v 8, p 195-206.

On p 206 there are 8 references.

Kurze übersicht über sämtliche legierungen. 1910. Ernst Jänecke. Hannover. 100p.

Bibliographies on alloys at the end of each section.

Lehrbuch der metallographie: chemie und physik der metalle und ihrer legierungen. 1921. G. H. J. A. Tammann. Voss, Leipzig. 402p.

Replete with bibliographical footnotes. There is a bibliography on p 383-5 dealing with alloys, also on p 391-7 dealing with binary alloys.

Magnetic properties of Heusler alloys. 1910. Edward B. Stephenson. III U Eng Expt Sta Bul 47, p 37-8.

Refers to about 30 books, with footnote references on p 3-8.

Méthodes d'étude des alliages métalliques. 1923. Léon Guillet. Dunod, Paris.

There are bibliographies at the ends of the chapters. Deals with alloys, thermal analysis, volume variation, magnetism, thermoelectricity, metallography, chemical and mechanical testing.

Notes on the metallography of alloys. 1912. William Campbell. *Am Inst Min Eng Trans* v 44, p 849-50.

A bibliography of 38 references.

Preliminary study of the alloys of chromium, copper and nickel. Historical review. 1916. D. F. McFarland and Oscar E. Harder. *III U Eng Expt Sta Bul* 93, p 52-7.

Has 22 footnotes giving the original sources of the information contained in the text.

Recent progress in metallography. 1916. William Campbell. *Am Inst Metals Trans* v 10, p 269-331.

A very exhaustive bibliography on metallography classified as follows: metals, binary and ternary alloys, electrical and magnetic properties and corrosion.

Sur la conductivité électrique des alliages. 1911. W. Broniewski. *Rev de Met mem* v 8, p 320-34.

Bibliography on the electrical conductivity of alloys from 1827 to 1910 is on p 328-34. Reprinted in *J Soc Chem Ind* v 30, p 550-2.

Sur les propriétés thermo-électriques des alliages. 1910. W. Broniewski. *Rev de Met mem* v 7, p 341-67.

On p 360-7 is a bibliography with brief notes, arranged chronologically from 1822 to 1909, on the thermo-electric properties of alloys.

Versuche über die volumenänderung von binären metall-legierungen. 1922. Karl Gilbert. *Zeit f Metallkunde* v 14, p 245-53.

Gives 41 bibliographical footnotes on the change in volume of binary metallic alloys.

Alum

Some facts about residual alum in filtered water. 1922. A. M. Bushwell and G. P. Edwards. *Chem & Met Eng* v 26, p 826-9.

Bibliography on p 829; 25 references chiefly for the years 1920 and 1921 on the chemistry of the alum coagulation process.

Alumina

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg, Braunschweig. 2 v.

V 1, p 218 contains 17 references on the melting of alumina, and on p 309-11 there are 68 references on the technical reduction of alumina.

Mordants. 1922. Wilder D. Bancroft. *J Phys Chem* v 26, p 447-70, 502-36, 736-72.

Pt 1 has 26 bibliographical footnotes on the general theory of mordants, pt 2 has 61 bibliographical footnotes on alumina, and pt 3 has 42 bibliographical footnotes on chrome.

Aluminum

Aluminium: its history, occurrence, properties, metallurgy and applications, including its alloys. 1890. Joseph W. Richards. Baird, Phila. 511p.

Contains numerous bibliographical footnote references chiefly to patents. Primarily of historical value.

Aluminum and its light alloys. 1918. Paul D merica. *Chem & Met Eng* v 19, p 729-32, 780-5.

A bibliography of 510 references from 1890 to 1918, arranged by subject. Deals with metallurgy, metallography, chemical and physical properties, and corrosion of aluminum and its alloys.

Aluminum and its congeners including the rare earth metals. 1917. H. F. V. Little. Griffin, London. 485p.

Contains numerous bibliographical footnotes.

Aluminum and its light alloys. 1919. U S Bur Stand Circ 76, p 109-20.

506 references on the chemical and physical properties, corrosion, welding, etc. of aluminum and aluminum alloys.

Aluminum and bauxite. 1921. Great Britain. Imperial mineral resources bureau. Mineral industry of the British empire and foreign countries, London. 35p.

On p 27-35 there are 250 references on aluminum and bauxite; mineral resources, alloys and uses. Covers the war period, 1913-1919.

Bibliographie de l'aluminium et de ses alliages. 1921. Léon Guillet. *Rev de Met* v 18, p 517-26.

Lists a number of the principal books and articles on aluminum and its alloys.

Bibliography of aluminum. 1909. Mineral Ind v 18, p 23-4.

Has 17 references.

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg, Braunschweig. 2 v.

On p 309-11 there are 68 references on the technical reduction of alumina.

Electric furnace: its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Electric furnace, its origin, transformations and applications. Faraday Soc Trans v 2, p 25-8.

About 120 references on the electrometallurgy of aluminum and its alloys.

La production de la potasse et de l'alumine à partir des leucites italiennes au moyen du chlore. 1922. U. Pomilio. *Chimie & Ind* v 7, p 425-37.

On p 437 there are 48 references on the production of potash and aluminum from leucites.

Metallography of aluminum. 1919. R. J. Anderson. *J Fr Inst* v 187, p 1-47.

On p 44-7 there is a bibliography of 61 references on the general subject of aluminum; the amorphous theory, and plastic deformation; grain growth in metals; annealing and recrystallization; metallography.

Aluminum alloys

Aluminum and its light alloys. 1918. Paul D merica. *Chem & Met Eng* v 19, p 729-32, 780-5.

A bibliography of 510 references from 1890 to 1918, arranged by subject. Deals with metallurgy, metallography, chemical and physical properties, and corrosion of aluminum and its alloys.

Aluminum and its light alloys. 1919. U S Bur Stand Circ 76, p 109-20.

506 references on the chemical and physical properties, corrosion, welding, etc. of aluminum and aluminum alloys.

Aluminum alloys—Continued

Aluminum and bauxite. 1921. Great Britain. Imperial mineral resources bureau. Mineral industry of the British empire and foreign countries. London. 35p.

On p 27-35 there are 250 references on aluminum and bauxite; mineral resources, alloys and uses. Covers the war period, 1913-1919.

Aluminum-copper alloys. 1921. R. J. Anderson. Am Electrochem Soc Trans v 39, p 207-36.

On p 234-6 there is a list of 62 selected references on aluminum alloys. Covers the period from 1895 to 1921.

Aluminum-copper alloys. 1921. Robert J. Anderson. Am Electrochem Soc Trans v 40, p 405-34.

There is a bibliography of 62 references at the end of this paper. Also has 55 bibliographical footnotes.

Duralumin, a digest of information. 1922. Horace C. Knerr. Am Soc Steel Treat Trans v 3, p 13-42.

P 41-2 contain a bibliography of 28 references on aluminum alloys, especially duralumin.

Electric furnace, its origin, transformations and applications. 1906. Faraday Soc Trans v 2, p 25-8.

About 120 references on the electrometallurgy of aluminum and its alloys.

Properties of aluminum-manganese bronzes. 1912. E. Take. Faraday Soc Trans v 8, p 169-80.

About 45 bibliographical footnotes.

Recherches sur les propriétés électriques des alliages d'aluminium. 1911. Witold Broniewski, Paris.

On p 123-39 there is a bibliography of aluminum from 1822 to 1910 in three parts; 130 references on the electric resistance and its variation, 75 references on the thermo-electric properties, and 25 references on the electromotive force in solution.

Aluminum chloride

Anhydrous aluminum chloride. 1923. Oliver C. Ralston. U S Bur Mines. Tech Pa 321, 38p.

On p 38 there are 81 patents on the manufacture and use of aluminum chloride. Gives patents by number only.

Aluminum dust

Coal dust explosion tests in the experimental mine, 1913-1918 inclusive. 1922. George S. Rice. U S Bur Mines. Bul 167, 639p.

On p 608-10 is a selected bibliography with brief notes on the explosibility of aluminum dust. 15 references.

Aluminum nitride

I problemi dell'azoto. 1921. C. Toniolo. Gior di Chim ind ed appl v 3, p 360-8.

On p 362-6 there are 62 patents with notes on the manufacture of aluminum nitride, and on p 366-8 there are 38 references with notes on aluminum nitride.

Amalgams

See also Alloys

Metallurgy. 1911. Ad. Fenchel. Tr. by H. J. Morris. Bale, London, 273p.

On p 256-67 there is an extensive bibliography of the more important literature and works on amalgams.

Amidase

Biochemical catalysis in life and industry; proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in bread-making, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Amino acids

L'alimentation dans ses rapports avec le besoin qualitatif d'azote et les facteurs accessoires de la nutrition. 1922. A. Blanchetière. Chimie & Ind v 8, p 346T-60T.

219 references on amino acids and vitamins are given on p 358-60T.

Ammonia

See also Coal distillation, coke by-products

Bibliography of the literature on and relating to nitrogen fixation and the oxidation of ammonia. 1919. J Fr Inst v 187, p 716-35.

About 400 references, 1786-1919, classified by subject as well as chronologically.

Bibliography of the production of synthetic nitric acid and synthetic ammonia. 1917. J. C. Boyce. Chem & Met Eng v 17, p 328-37.

Covers the period from 1786 to 1917 with 250 references. In addition there is a list of about 500 patents from 1859 to 1917.

Composition and testing of commercial liquid ammonia. 1917. E. C. McKelvy. Am Soc Refrig Eng J v 3, no 5, p 49.

23 references from 1892 to 1916.

Composition, purification and certain constants of ammonia. 1923. E. C. McKelvy and C. S. Taylor. Refrigerating Eng v 9, p 213-25, 227.

Has 60 bibliographical footnotes.

Composition, purification and certain constants of ammonia. 1923. E. C. McKelvy and C. S. Taylor. U S Bur Stand Sci Pa 465, v 18, p 655-93.

On p 691-3 there is a list of 60 references quoted in the text.

Direct synthetic ammonia process. 1920. R. S. Tour. J Ind & Eng Chem v 12, p 844-52.

There are 27 references on p 852.

Edelmetalle und verbindungen der seltenen erden als kontaktstoffe. 1919. S. Halen. Edel Erden & Erze v 1, p 51-3, 76-9, 80-91, 102-5, 111-15.

Abstracts patent literature on catalytic agents in contact processes: sulphuric acid, hydrogenation of fats and oils, preparation of chlorine, catalytic ammonia, ammonia oxidation and production of organic compounds.

Literature of the nitrogen industries. 1917. Helen R. Hosmer. J Ind & Eng Chem v 9, p 425-38.

Reviews literature of nitrogen fixation, Haber process, ammonia synthesis, Ostwald process, ammonia from byproduct coke ovens, and calcium cyanamide. 152 papers are referred to and listed on p 437-8. Covers the period from 1912 to 1916.

- Properties of saturated and superheated ammonia vapor. 1913. G. A. Goodenough and William E. Mosher. III U Eng Expt Sta Bul 66, p 92-4.
Contains 86 references covering the period 1847-1911. Includes some foreign literature.
- Utilization of atmospheric nitrogen. 1912. Thomas H. Norton. U S Dept Commerce spec agent series no 52. 178p.
Bibliography on p 177-8 of 50 references to information on the present sources of nitrogen and the air-nitrate industry: synthetic production of ammonia.
- Vapor pressure of sulphur dioxide and ammonia. 1922. F. W. Bergstrom. J Phys Chem v 26, p 358-76.
Has 25 bibliographical footnotes.
- Ammonium sulphate**
Bibliography of ammonium sulphate. 1911. A. D. Way. Am Gas Inst Pro v 6, pt 1, p 223-6.
About 70 references to books, periodicals and official reports.
- Amylase**
Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.
On p 121-2 there are 25 references on the analysis of starch and amylase. 1880 to 1911.
- Analysis**
See also under name of metal or product.
- Analytical chemistry. 1919. C. Ainsworth Mitchell. Soc Chem Ind annual repts appl chem v 4, p 574-92.
There are 107 footnote references on methods of chemical analysis for 1919. Abstracts are given in the text.
- Analytical chemistry. 1920. C. Ainsworth Mitchell. Soc Chem Ind annual repts appl chem v 5, p 566-80.
Has 95 footnote references on the chemical analysis of various materials dating 1920. Abstracts are given in the text.
- Bibliography on the use of cupferron as a quantitative reagent. 1919. S. A. Bralley. J Ind & Eng Chem v 11, p 1144-5.
A brief descriptive bibliography of 13 references dating from 1909 to 1917. References are given in the form of abstracts of recorded results.
- Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.
Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.
- Methods in metallurgical analysis. 1920. C. H. White. Van Nostrand, N.Y. 634p.
List of "General references" on p 335-8.
About 70 references on assaying, ore analysis, quantitative analysis, etc.
- New method of crystal analysis and the reflection of characteristic X rays. 1923. George L. Clark and William Duane. Optical Soc Am J v 7, p 455-82.
There are 20 references on p 482.
- Standard methods of sampling and analysis and standard samples. 1917. William F. Hillebrand. Pan Am Sci Cong Wash- ington, D.C. 1915-1916 Pro v 8, p 68-83.
About 30 references to legally recognized methods and standards of chemical analysis for certain substances are given on p 78-82.
- Anesthetics**
Chemistry of anaesthetics. 1911. Charles Baskerville. J Fr Inst v 172, p 113-44.
Contains 43 bibliographical references.
- Annealing**
See also Steel, heat treatment.
- Annealing of metals. 1916. F. C. Thompson. Faraday Soc Trans v 12, p 30-7.
On p 37 there are 12 references.
- Concerning the annealing and characteristics of glass. 1920. A. Tool. U S Bur Stand Sci Pa 358, v 13, p 537-71.
On p 570-1 there are 53 references from 1868 to 1919 on annealing, viscous and plastic deformation, double refraction, stresses, nature and characteristics of glass.
- Anthracene**
See also Coke byproducts.
- Fluorescence of anthracene. 1911. Louisa S. Stevenson. J Phys Chem v 15, p 845-65.
Bibliography on p 864-5 has 42 references.
- Antraquinone**
Chimie de l'antraquinone. 1922. Grandmougin. Chimie & Ind v 7, p 147T-53T, 239T-45T; v 8, p 47T-56T; v 9, p 46T-52T.
A very complete study of the chemistry of anthraquinone and its derivatives, giving bibliographical references throughout the text and in footnotes.
- Antimony**
Bibliography of antimony from 1909 to 1917. Chung Yu Wang. Commercial Press, Shanghai, China. 27p.
About 250 references dealing with the geology, occurrence and mining of antimony ores, metallurgy, analysis, production, valuation, chemistry, history, alloys and uses of antimony.
- Bibliography on the analysis of antimony. 1919. Elton R. Darling. Chem Eng v 27, p 11-12, 21, 41-2, 63.
About 160 references.
- Industrial readjustments of certain mineral industries affected by the war. 1920. U S Tariff Comm, Tariff Information series no 21. 320p.
On p 44-6 there are 55 references on antimony.
- Organic compounds of arsenic and antimony. 1918. Gilbert T. Morgan. Longmans, Green, London. 375p.
Bibliography on p 351-60 has 200 references from 1760 to 1917. There are also bibliographical footnotes.
- Arrhenius, Svante**
Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.
Includes a short bibliography of the life of each of the following: Perkin, Mendeléeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Remsen, and Fischer.
- Arsenic**
Determination of arsenic in insecticides. 1911. E. B. Holland. J Ind & Eng Chem v 3, p 168-71.
Contains 25 bibliographical footnotes.

Arsenic—Continued

Organic compounds of arsenic and antimony. 1918. Gilbert T. Morgan. Longmans, Green, London. 375p.

Bibliography on p 351-60 has 200 references from 1760 to 1917. There are also bibliographical footnotes.

Pure metallic arsenic. 1920. Chester H. Jones. *Chem & Met Eng* v 23, p 957-60.

On p 959-60 there are 40 references to arsenic, its uses and effects in metallurgy.

Recent developments in the organic chemistry of arsenic. 1923. W. Lee Lewis. *J Ind & Eng Chem* v 15, p 17-19.

Bibliography on p 19 has 38 references.

Arsphenamine

Development of the American arspenamine industry. 1923. G. W. Raiziss. *Ind & Eng Chem* v 15, p 413-15.

There are 13 references on p 415.

Asbestos

Asbestos: bibliography. 1910. *Mineral Ind* v 19, p 53.

11 references.

Brief list of references on the asbestos industry. 1920. H. H. B. Meyer. *U S Libr Cong, Div of Biblio*, manifold copy. Contains 68 references.

Chrysotile-asbestos, its occurrence, exploitation, milling and uses. 1910. Fritz Cirkel. Canada, Dept Mines, Mines branch, Ottawa, Canada. 316p.

On p 290-1 there is a bibliography of 23 references covering the period from 1880 to 1909.

Asphalt

Asphalts and allied subjects; their occurrence, modes of production, uses in the arts, and methods of testing. 1920. H. Abraham. Van Nostrand, N.Y. 608p.

Bibliography on p 583-6 has 75 references from 1841 to 1920.

Die natürlichen und künstlichen asphalte; ihre gewinnung zusammensetzung und untersuchung. 1921. J. Marcusson. Engelmann, Leipzig. 262p.

A list of more than 100 German, French and English patents is given on p 244-54.

Handbook of petroleum, asphalt and natural gas. 1922. Roy Cross. *Kansas City Test Lab Bul* 16. 625p.

On p 559-92 there is a bibliography of references to publications and U.S. patents on petroleum up to 1922.

Künstliche peche und asphalte. 1911. E. J. Fischer. *Kunststoffe* v 1, p 421-3, 447-52, 471-4.

Gives a few bibliographical footnotes and a list of German patents on artificial asphalts and pitches.

Petroleum und asphalt in Ungarn. 1907. Theodor Posewitz. Franklin Verein, Budapest.

On p 239-49 there are 233 references from 1791 to 1906, arranged chronologically, on petroleum and asphalt in Hungary.

Technische asphalt- und pechpräparate. 1920. E. J. Fischer. *Kunststoffe* v 10, p 30-2, 39-43.

On p 31-2, 39-43, there are 112 patents with brief notes on asphalt and pitch preparations.

Assaying

See also Analysis

Behavior of tellurium in assaying. 1907. Sidney W. Smith. *Inst Min & Met trans* v 17, p 463-76.

Bibliography on p 474-6 has 19 references, from 1883 to 1908.

Einführung in die probierkunde. 1912. Carl Schiffner. Halle. 171p.

On p 7 there is a list of 25 books on assaying dating from 1880 to 1910.

Sampling and assaying. 1909. F. F. Colcord. *Mineral Ind* v 18, p 781-9.

There is a bibliography of twelve references for the year 1909 on p 789.

Sampling and assaying in 1911. 1911. D. M. Liddell. *Mineral Ind* v 20, p 885-99.

Numerous bibliographical footnotes are given, also a bibliography of 20 references on p 898-9 on sampling, assaying and analysis.

Sampling and assay of the precious metals. 1913. Ernest A. Smith. Griffin, London. 460p.

On p 434-5 there is a bibliography of 18 references on the assaying and determination of platinum, gold and silver. Notes are given, and the references date from 1879 to 1912.

Atoms

Changes of mass and weight involved in the formation of complex atoms. 1915. W. D. Harkins, and E. D. Wilson. *Am Chem Soc J* v 37, p 1367-1421.

Bibliography on p 1420-1 of more than 50 references.

Atomic structure

Il nucleo atomico. 1921. Rita Brunetti. *Nuovo Cimento* v 22, p 215-45.

On p 242-5 there is a bibliography of 71 references on the radiation of X rays, disintegration of alpha particles of atomic nuclei, Moseley's law and Bohr's theorem, and equivalence and relativity theories.

La constitution des atomes et l'affinité chimique. 1922. *Rev gén des Sci* v 33, p 390-400.

On p 400 there are 34 references on atomic structure, affinity and valence, and related topics.

Structure of the atom. 1917. Saul Dushman. *Gen Elec R* v 20, p 186-96, 397-411.

22 references are given on p 410-11. Also has a number of bibliographical footnotes.

Atomic weights

Atomic weights, a historical sketch. 1910. J. S. Hepburn. *J Fr Inst* v 170, p 217-23.

Bibliography on p 222-3 has 25 references.

Azeotropism

La tension de vapeur des mélanges de liquides: l'azéotropisme. 1918. Maurice Lecat. Lamartin, Brussels.

Bibliography on p 217-66 has more than 700 references arranged by author as well as chronologically from 1813 to 1917. Deals with vapor pressure and boiling points of mixtures of liquids, fractional distillation, phase rule. A very exhaustive bibliography referring to American, English, French, German etc. literature.

B

Baghouse

See also Dust removal, fumes

Baghouse and its recent applications. 1909. W. C. Ebaugh. *J Ind & Eng Chem v 1*, p 686-9.

Has 20 bibliographical footnotes on filters for fumes and dusts.

Bakelite

See also Plastics

Synthesis, constitution and uses of bakelite. 1909. L. H. Baekeland. *J Ind & Eng Chem v 1*, p 149-61.

Has 33 bibliographical footnotes.

Barium

Electric furnace; its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminium, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and also electric furnaces.

Barium chloride

Toxicity of barium carbonate to rats. 1920. Erich W. Schwartz. *U S Dept Agr Bul* 915. 11p.

On p 10-11 there are 20 references on the poisonous qualities and uses of barium chloride.

Barium compounds

Production, manufacture and use of compounds of barium. 1915. Warren E. Emley and S. Eccles Young. *Am Ceramic Soc Trans v 17*, p 240-8.

Has 28 bibliographical footnotes.

Barium hydroxide

Gewinnung von bariumhydroxid aus schwerspat. 1920. *Zeit f Elektrochem v 26*, p 2-3.

Has 23 bibliographical footnotes on the manufacture of barium hydroxide from barium sulphate and barium sulphide.

Barium sulphate

Effect of adsorption on the physical character of precipitated barium sulphate. 1917. Harry B. Weiser. *J Phys Chem v 21*, p 314-33.

Has 29 bibliographical footnotes.

Bauxite

Aluminum and bauxite. 1921. Great Britain. Imperial Mineral resources bureau. Mineral industry of the British empire and foreign countries, London. 35p.

On p 27-35 there are 250 references on aluminum and bauxite; mineral resources, alloys and uses. Covers the war period, 1913-1919.

Beet sugar. *See* Sugar beet**Belladonna**

See also Alkaloids

Study of American grown belladonna. 1914. F. A. Miller and R. N. Reed. *J Ind & Eng Chem v 6*, p 25-6.

Has 16 bibliographical footnotes.

Beryllium

Chemistry and literature of beryllium. 1908. Charles L. Parsons. Chem Pub Co, Easton, Pa. 180p.

Bibliography on p 72-168 has about 350 references from 1798 to 1908, with extensive extracts.

Versuche zur herstellung von metallischem beryllium. 1911. Albert Althen Becker, Arnsberg. 32p.

Contains 29 bibliographical footnotes on the preparation of metallic beryllium and the analysis of beryllium.

Beta-oxynaphthoic acid

Dyes derived from beta-oxynaphthoic acid and from J- acid with reference to the chemical foundation patents. 1921. A. Willard Joyce. *J Ind & Eng Chem v 13*, p 946-8.

25 U.S. patents are given in the footnotes.

Binders

Kitte, kleb und bindemittel. 1917. M. Schall. *Kunststoffe v 7*, p 57-9.

Reviews the patent literature on glues and binders.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. *Kausch. Kunststoffe v 3*, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovey. Canada, Dept Int, Forestry branch bul 66. 193p.

A classified bibliography with notes on utilization of waste sulphite liquor, including its use as sources of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Biochemistry

Biochemical catalysis in life and industry; proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Biochemical studies of cholesterol, bibliography. 1913. Joseph S. Hepburn. *J Fr Inst v 176*, p 449-52.

100 references on the chemistry of cholesterol from 1815 to 1913.

Bismuth

Über das wismut. 1922. K. Mieleitner. *Edel Erden & Erze v 3*, p 61-3, 74-7.

Contains 27 bibliographical footnotes on the bismuth minerals, and the production of bismuth.

Bismuth alloys

Alloys of lead, tin and bismuth. 1902. E. S. Shepherd. *J Phys Chem v 6*, p 519-53.

On p 552-3 there are 42 references.

Bituminous materials

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Phila. 691p.

On p 56-7 there is a list of 60 books dating from 1885 to 1922 on mineral oils and bitumens. On p 108-9 there are references to 60 books dating from 1885 to 1919 on fats and fatty oils.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. Kausch. Kunststoffe v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 127-35 there are about 100 annotated U.S. and foreign patents on bituminous materials and paving blocks.

Blackboards

Herstellung von schreibtafeln aus kunstschiefer oder mittels kunstschieferanstrichen nach der patentliteratur. 1919. Schall. Kunststoffe v 9, p 311-12.

A list of 26 patents with brief notes on the manufacture of blackboards from artificial slate.

Blast furnace gas

Dry hot vs cold wet blast furnace gas cleaning. 1916. Linn Bradley and others. Am Inst Min Eng Trans v 56, p 315-18. Has about 80 references.

Blast furnace slag

Die verwendung der hochofenschlacke im baugewerbe. 1919. Arthur Guttman Stahlisen, Düsseldorf. 208p.

Bibliography on p 153-8 of 83 references on the use of blast furnace slag for building material, and for cement manufacture.

Viscosity of blast furnace slag and its relation to iron metallurgy including a description of a new method of measuring slag viscosity at high temperatures. 1917. Alexander L. Feild. Faraday Soc Trans v 13, p 3-35.

Has more than 80 bibliographical footnotes.

Blast furnaces

Handbuch der eisenhüttenkunde. 1906 A. Ledebur. Felix, Leipzig. ed. 5. 3 v.

There are long bibliographies at the ends of the chapters. These bibliographies are on: fuels, refractories and furnaces, slags, chemistry of the metallurgy of iron, blast furnace, iron, steel and rolling mills, etc.

Improvements in the method of drying air for blast furnaces. 1912. Walter Bruce. Eng Soc W Pa Pro v 28, p 277-310.

There are 23 references on p 309-10 from 1904 to 1911.

Potash as a byproduct from the blast furnace. 1916. R. J. Wysor. Am Inst Min Eng Trans v 56, p 257-88.

On p 286-8 there are about 50 references from 1826 to 1916.

Recovery of potash from iron blast furnaces and the cement kilns by electrical precipitation. Bibliography. Linn Bradley. J Ind & Eng Chem v 10, p 837-8.

A brief bibliography of 38 references from 1916 to 1918.

Bleaching

Bibliography of the cotton manufacture. 1909. C. J. H. Woodbury. Boston Nat Assoc Cotton Mfgs Trans no 86, (April) p 339-549.

Contains 5074 references, classified and grouped as follows: 1. cotton manufacture, carding, spinning, weaving, etc. 2. finishing, bleaching, dyeing, mercerizing etc. 3. engineering and machinery, 4. history and economics, 5. agricultural side of cotton, 6. publications relating to textiles.

Bibliography of the cotton manufacture. 1910. C. J. H. Woodbury. Boston Nat Assoc Cotton Mfgs Trans no 88, (April) p 364-415.

Appendix to the preceding bibliography. Contains 1223 supplementary references classified in the same manner.

Bleaching and related processes. 1921. J. M. Matthews. Chem Cat Co, N.Y. 676p. Bibliography on p 659-61 contains 110 references on bleaching and dyeing as far back as 1792.

Bleaching; being a resumé of the important researches on the industry published during the years 1908 to 1920. Sidney H. Higgins. Longmans, Green, London. 137p.

From 200 to 300 references are scattered throughout the text.

Bleaching, dyeing, printing and finishing. 1917. S. H. Higgins. Soc Chem Ind annual repts appl chem v 2, p 159-74.

Has 114 bibliographical footnotes covering 1917. Abstracts are given in the text.

Bleaching, dyeing, printing and finishing. 1918. S. H. Higgins. Soc Chem Ind annual repts appl chem v 3, p 47-161.

81 bibliographical footnotes covering 1918. Abstracts are given in the text.

Bleaching, dyeing, printing and finishing. 1919. S. H. Higgins. Soc Chem Ind annual repts appl chem v 4, p 137-48.

Has 91 bibliographical footnotes covering 1919. Abstracts are given in the text.

Bleaching, dyeing, printing and finishing. 1920. Benjamin Leech. Soc Chem Ind annual repts appl chem v 5, p 150-61.

Has 57 footnote references to literature for 1920.

Bleaching, dyeing, printing and finishing. 1921. W. Harrison. Soc Chem Ind annual repts appl chem v 6, p 154-65.

64 bibliographical footnotes are given covering 1921. Abstracts are given in the text.

Bleaching of paper. 1920. Clarence J. West. Paper Tr J (Dec. 9, 1920) v 71, no 24, p 36, 38, 40, 42, 48.

Bibliography of 200 references.

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg. Braunschweig. 2 v.

In v 2, p 100 there are 8 references on hypochlorites and electrolytic bleach.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Phila. 691p.

On p 549-51 there is a list of books dating from 1879 to 1921 on coal tar dyes. On p 584-5 there is a list of books dating from 1877 to 1918 on natural dyes and on p 638-9 there is a list of books dating from 1876 to 1921 on bleaching, dyeing and textile printing.

List of books relating to cotton and the cotton industry, in the library of the Franklin Institute. 1909. J Fr Inst v 167, p 315-19.

About 150 books arranged topically and chronologically from 1800 to 1900. Deals also with dyeing, bleaching, spinning, weaving, etc. of cotton, as well as cotton machinery, milling, and manufacture.

Blotting paper. See Paper, blotting

Boiling points

La tension de vapeur des mélanges de liquides: l'azéotropisme. 1918. Maurice Lecat. Lamartin, Brussels.

Bibliography on p 217-66 has more than 700 references arranged by author as well as chronologically from 1813 to 1917. Deals with vapor pressure and boiling points of mixtures of liquids, fractional distillation, phase rule. A very exhaustive bibliography referring to American, English, French, German etc. literature.

Note on temperature scale between 100° and 500°C. 1910. Charles W. Waidner. U S Bur Stand Bul v 7, p 1-11.

On p 9 there are 15 references on boiling points of substances for use as standards in thermometry.

Bordeaux mixture

Pickering sprays. 1920. F. C. Cook. U S Dept Agr Bul 866. 47p.

On p 46-7 there are 25 references on Bordeaux mixture.

Borides

Investigation of the borides and silicides. 1906. Oliver P. Watts. Wisconsin U Eng Ser Bul v 3, p 251-318.

Bibliography on p 314-18 of about 55 references from 1808 to 1906.

Boron

Chemical role of boron in glazes. 1912. Ross C. Purdy. Am Ceramic Soc Trans v 14, p 731-9.

Has 20 bibliographical footnotes.

Brass

Bibliography of electric furnaces for brass melting. 1918. H. W. Gillett and A. E. Rhoads. Chem & Met Eng v 19, p 82.

Has 16 references.

Brass furnace practice in the United States. 1916. H. W. Gillette. U S Bur Mines Bul 73. 298p.

Contains a number of bibliographical footnotes on all phases of brass furnace practice.

Dichtemessungen von metallen und legierungen bei hohen temperaturen mit besonderer berücksichtigung des flüssigen zustandes. 1922. K. Bornemann and F. Sauerwald. Zeit f Metallkunde v 14, p 145-59.

On p 147 there are given 31 sources of data on expansion and density of solid and liquid brass, especially the Cu-Sn and Cu-Al systems.

L'application des fours électriques à la fusion des métaux et alliages nonferreux. 1922. A Billaz. Vie Tech & Ind v 4, p 91-101.

On p 101 there are 9 references on electric brass furnaces.

Season cracking of nonferrous metals. Bibliography. 1922. British Nonferrous Metals Assoc Bul no 6, p 14-18.

Has 47 references.

Zinc industry. 1918. Ernest A. Smith. Longmans, Green, London. 223p.

There are 125 references on the metallurgy of zinc, zinc alloys, brasses, nickel silver, zinc-aluminum, from 1902 to 1917, on p 213-21.

Bread

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in medical treatment, breadmaking, etc.

Brewing

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in bread making, cheeses, yeasts, brewing, etc.

Brick making

Brick manufacture and bricklaying. 1912. Pittsburgh Carnegie Library monthly bul v 17, p 8-33.

About 350 references with annotations: includes kilns, brickmaking machinery; glazed, paving, sand lime, and slag brick; brick testing; also bricklaying.

Briquetting

Briquetting of iron ores. 1917. Guy Barrett and T. B. Rogerson. Iron & Steel Inst J v 96, p 7-60.

Bibliography on p 43-8 on recent literature of briquetting of iron ores from 1910 to 1917. Has 111 references.

Briquetting tests. 1909. C. L. Wright. U S Geol Sur Bul 385. 41p.

100 references are given on p 38-41 from 1899 to 1908.

Fuel and mineral briquetting. 1905. Robert Schorr. Am Inst Min Eng Trans v 35, p 115-16, 968-9.

A list of about 25 references.

Briquetting (fuels)

Briquetting tests of lignite at Pittsburgh, Pa. 1908-9. 1912. Charles L. Wright. U S Bur Mines Bul 14. 64p.

Bibliography of lignite briquette manufacture in Germany on p 49-51; 7 references to sulphite liquor and cell-pitch on p 57; and on p 63-4 is a list of references reviewing the literature on briquetting from 1899 to 1910.

Fuel and mineral briquetting. 1905. Robert Schorr. Am Inst Min Eng Trans v 35, p 115-16, 968-9.

A list of about 25 references.

Briquetting (fuels)—Continued

Fuel-briquetting investigations, July 1904 to July 1912. C. L. Wright. U S Bur Mines Bul 58, 277p.

Bibliography on fuel briquetting and fuel technology on p 266-72. Covers the years 1899 to 1912.

Bronze

Properties of aluminum-manganese bronzes. 1912. E. Take. Faraday Soc Trans v 8, p 169-80.

About 45 bibliographical footnotes.

Brownian movement

Physical properties of colloidal solutions. 1921. E. F. Burton. Longmans, Green, London. 221p.

Bibliography of 54 references on the Brownian movement on p 94-5.

Building materials

Ceramics and building materials. 1919. W. J. Rees. Soc Chem Ind annual repts appl chem v 4, p 189-201.

54 footnote references for 1919 with abstracts in the text.

Ceramics and building materials. 1920. Walter C. Hancock. Soc Chem Ind annual repts appl chem v 5, p 215-28.

Has 84 bibliographical footnotes. Abstracts are given in the text.

Ceramics and building materials. 1921. W. Emery. Soc Chem Ind annual repts appl chem v 6, p 229-56.

Has 101 bibliographical footnotes. Abstracts are given in the text.

Diatomaceous earth. 1920. Norris Goodwin. Chem & Met Eng v 23, p 1158-60.

On p 1159-60, there are about 150 references on occurrence, tests of diatomaceous earth, patents on its use as filtering agent, building material, in paints, cements and polishing compounds.

Glass, refractory materials, ceramics and building materials. 1917. W. J. Rees. Soc Chem Ind annual repts appl chem v 2, p 204-41.

Has 131 footnote references for the year 1917. Abstracts are given in the text.

Butadiene

See also Rubber

Preparation and polymerization of butadiene, isoprene, and their homologues. 1912. W. H. Perkin. Soc Chem Ind J v 31, p 616-22. *Also* Kunststoffe v 2, p 304-8.

About 30 references are given in the text.

Butter

Margarine. 1920. William Clayton. Longmans, Green, London. 187p.

Bibliography on p 144-79; oils and fats used in the manufacture of margarine, p 144-50; edible hydrogenated oils, p 150-1; examination of milk, pasturization, sterilization and inoculation, p 151-6; artificial milk, p 156; theory of emulsification, butter, renovated butter, p 163-72; deterioration of butter and margarine in storage, use of preservatives, p 173-6; nutritional chemistry and vitamins on p 176-9. In all about 700 references.

C**Cadmium**

Die verwendung der edelerden zur herstellung von farben und anstrichmassen.

1920. F. Wedorf. Edel Erden & Erze v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver and platinum in dyes and paints.

Electrodeposition of cadmium. 1914. F. C. Mathers and H. M. Marble. Am Electrochem Soc Trans v 25, p 296-331.

Has 86 bibliographical footnotes.

Electrolytic corrosion of some metals. 1911. G. R. White. J Phys Chem v 15, p. 723-92.

About 60 footnote references dealing with the electrolytic corrosion of zinc, copper, tin, lead, nickel and cadmium.

Metallurgy of zinc and cadmium. 1922. H. O. Hofman. McGraw-Hill, N.Y. 341p.

Contains more than 500 bibliographical footnotes scattered throughout the book.

Calcium

Electric furnace; its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each.

On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Preparation of calcium. 1909. Francis C. Frary and Walter L. Badger. Am Electrochem Soc Trans v 16, p 185-95.

Has 37 bibliographical footnotes.

Some alloys of calcium. 1911. James M. Breckenridge. Wisconsin U Eng Series Bul v 6, no 6. 37p.

On p 34-7 there are 66 references.

Calcium carbide

See also Carbides

Calcium carbide and acetylene. 1917. George G. Pond. Penn State College Chem Dept Bul.

Bibliography on p 121-39 comprises a list of the principal published works relating to calcium carbide, acetylene, and its applications; about 80 books and more than 700 references to periodical literature.

Fabrication de l'acide acétique synthétique au départ du carbure de calcium. 1921. Maurice Deschiens. Chimie & Ind v 5, p 526-8.

Has a list of articles and German, French, English, and U.S. patents on the manufacture of acetic acid and its compounds from acetylene.

Calcium cyanamide

Literature of the nitrogen industries. 1917. Helen R. Hosmer. J Ind & Eng Chem v 9, p 425-38.

Reviews literature of nitrogen fixation, Haber process, ammonia synthesis, Ostwald process, ammonia from byproduct coke ovens, and calcium cyanamide. 152 papers are referred to and listed on p 437-8. Covers the period from 1912 to 1916.

Calorimetry

See also Thermometry, thermostats

Combustion calorimetry and the heats of combustion of cane sugar, benzoic acid, and naphthalene. 1914. Hobert C. Dick-

inson. U S Bur Stand Bul v 11, p 189-257.

On p 256-7 there are 41 references on the heats of combustion of solids and general calorimetric problems.

Camphor

Camphor substitutes in the manufacture of celluloid. 1921. Albert P. Sachs and Oscar Byron. J Ind & Eng Chem v 13, p 893-901.

On p 897-901 there is a list of U.S. German, French and British patents with brief notes on camphor substitutes.

Synthesis of camphor. 1907. F. J. Pond. Soc Chem Ind J v 26, p 383, 386.

On p 386 there are 35 references on the synthesis of camphor and on p 383 there are 7 references on the history and uses of camphor.

Tabellarische uebersicht über die bei der zellhornbereitung verwendeten kampfcrsatzmittel. 1915. Max Schall. Kunststoffe v 5, p 241-3, 267-8.

A tabulation of patents with brief notes on camphor substitutes in the manufacture of celluloid.

Verfahren zur herstellung von kampfcr auf synthetischem wegc. 1914. Oskar Kausch. Kunststoffe v 4, p 1-4, 24-5, 47-50.

A tabulation of patents on the preparation of synthetic camphor and its intermediate products. Gives brief notes.

Carbides

See also Calcium carbide

Review and bibliography of the metallic carbides. 1898. J. A. Mathews. Smithsonian misc col no 1090. Washington, D.C. 32p.

Carbohydrates

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 85-6 there are 40 references from 1905 to 1912 on the analysis of carbohydrates.

Carbon

Bibliography on the different forms and combinations of carbon with iron, including those in iron alloys. 1914. P. H. Berggren. Am Inst Min Eng Bul 90, p 913-27.

About 50 references from 1817 to 1912.

Carbon and its allies. 1917. Robert Martin Caven. Griffin, London. 468p.

Has numerous bibliographical footnotes on carbon, silicon, germanium, thorium, zirconium, titanium, tin, lead, and their compounds.

Kolloide lösungen von kohlenstoff im wasser. 1922. P. C. L. Thorne. Kolloid Zeit v 31, p 119-32.

Has 71 bibliographical footnotes on colloidal solutions of carbon in water.

Review of the literature on decolorizing carbons. 1923. J. F. Brewster. Louisiana Planter v 70, p 471-3.

There are 20 references on p 473.

Über die entwicklung des zustandsdiagramms der eisen-kohlenstofflegierungen. 1909. F. Wust. Metallurgie. v 6, p 512-31.

On p 529-31 there are about 50 references on the history of iron-carbon diagrams and the physical chemistry of iron-carbon alloys.

Carbon black

See also Lampblack

Carbon black, its manufacture, properties and uses. 1922. R. O. Neal and G. St. J. Perrot. U S Bur Mines Bul 192. 95p.

There is a bibliography of about 250 patents on p 80-91.

Carbon disulphide

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg, Braunschweig. 2 v.

V 1, p 222 contains 14 references on carbon disulphide.

Carbon monoxide

A partial list of papers and books bearing on the subject of air and air analysis. 1911. Edwin M. Chance. J Fr Inst v 172, p 461-94.

Contains bibliographical footnotes and on p 490-4 over 100 references dealing chiefly with the determination of carbon monoxide and the physiological effect of the composition of mine air.

Carbonization

See also Coke

Carbonization of lubricating oils in internal combustion engines. 1921. F. H. Garner. Inst Pet Tech J v 7, p 98-126, 139-48.

Bibliography on p 139-48 includes all the important references dealing with evaporation and carbonization of mineral lubricating oils and with the lubrication of internal combustion engines. Arranged by subject and chronologically. 150 references with notes.

Carbonyl chloride

Bibliography of carbonyl chloride (phosgene) and its derivatives. D. D. Berolzheimer. J Ind & Eng Chem v 11, p 263-6.

An indexed list of 255 references including patents, and covering the period from 1812 to 1919.

Carborundum

Carborundum. 1904. F. A. J. Fitzgerald. Knapp, Halle. 43p.

On p 41-3 there are 25 patents and 29 references.

Carborundum. 1909. L. Baraduc-Muller. Rev de Met mem v 6, p 117-61.

Bibliography on p 160-1 has 40 references dating from 1882 to 1907.

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg, Braunschweig. 2 v.

In v 1, p 192-4 there are 72 references on carborundum, manufacture, uses, analysis, etc.

Carbon, Henry Louis M.

Lieutenant-colonel Caron. 1909. P. Nicolardot. Rev de Met mem v 6, p 1-59.

On p 48-50 there is a list of papers by Caron dating from 1857 to 1873.

Case hardening

See also Steel, heat treatment

Case hardening. References to books, periodical articles and patents. 1918. Pittsburgh Carnegie Library monthly bul v 23, p 128-36.

About 100 references including 20 patents covering the period from 1910 to 1917.

Gas as a case hardening agent. Bibliography. 1915. Alfred H. White and Homer T. Wood. Am Gas Light J v 103, p 266.

Has 30 references dating from 1908 to 1914.

Case hardening—Continued

Recent progress and present state of the technical application of the case hardening of steel. Bibliography. 1916. Federico Giolitti. Int Eng Cong San Francisco, Trans Met v, p 87-8.

Has 18 references.

Selective case-carburizing. 1922. W. P. Wood and O. W. McMullan. Chem & Met Eng v 26, p 1077-80.

A review of the various methods of producing local cases. Bibliography on p 1080 contains 26 references.

Casein

Bibliography on casein and casein glues. 1919. Forest Products Laboratory Tech notes F-6.

Lists 35 references.

Chemistry and technology of gelatine and glue. 1922. Robert H. Bogue. McGraw-Hill, N.Y. 644p.

On p 340-4 there is a list of about 90 U.S. patents on casein adhesives.

Herstellung von plastischen massen aus casein. 1914. S. Halen. Kunststoffe v 4, p 301-2.

A list of 25 patents on the preparation of plastics from casein. Brief notes are given.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 113-16 there are about 60 annotated U.S. and foreign patents on casein, its use in glues, paper manufacture, paints and other uses.

Water resistant glues. 1919. F. L. Browne. Chem & Met Eng v 21, p 136-8.

On p 138 there are 28 references to casein and casein glues, 6 patents on casein glues, and 9 references to animal glues.

Catalase

Factors influencing the catalase activity in apple leaf tissue. 1923. A. J. Heinicke. Cornell U Agr Expt Sta mem 62. 19p.

On p 18-19 there are 17 references on catalase.

Catalysis and catalytic agents

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in bread making, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Catalytic decomposition of hydrogen peroxide by ferric salts. 1921. Van L. Bohnsen. J Phys Chem v 25, p 19-54.

Has 68 bibliographical footnotes.

Catalytic decomposition of hydrogen peroxide by sodium iodide in mixed solvents. 1920. Van L. Bohnsen. J Phys Chem v 24, p 677-700.

Has 31 bibliographical footnotes.

Edelmetalle und verbindungen der seltenen erden als kontaktstoffe. 1919. S. Halen. Edel Erden & Erze v 1, p 51-3, 76-9, 80-91, 102-5, 111-15.

Abstracts the patent literature on catalytic agents in contact processes: sulphuric

acid, hydrogenation of fats and oils, preparation of chlorine, catalytic ammonia, ammonia oxidation and production of organic compounds.

First report of the committee on contact catalysis. 1922. Wilder D. Bancroft. Nat Research Council reprint & circular ser 30. 43p. Also J Ind & Eng Chem v 14, p 326-31, 444-7, 545-8, 642-6.

Has about 120 bibliographical footnotes on contact catalysis.

On the catalytic hydrogenation of cottonseed oil. 1921. Louis Kahlenberg and George J. Ritter. J. Phys Chem v 25, p 89-114.

Has 38 bibliographical footnotes.

Organic catalysis. 1922. E. Emmet Reid. J Ind & Eng Chem v 14, p 838-9.

Has 38 footnote references to literature published during 1921-1922.

Poisoning of catalytic agents. 1917. Wilder D. Bancroft. Am Electrochem Soc Trans v 32, p 439-64.

Has 56 bibliographical footnotes.

Propriétés électrochimiques des solutions dans les solvants autres que l'eau. 1922. Annales de l'Energie v 2, p 142-7.

On p 147 there are about 100 references subsequent to 1907 on ionization, solution, conduction, molecular weights, electrolysis, electromotive force, transport numbers, reactions and catalysis, of non-aqueous solutions.

Theory of contact catalysis. 1917. Wilder D. Bancroft. Am Electrochem Soc Trans v 32, p 475-90.

Has 45 bibliographical footnotes.

Thermal problem in organic contact catalysis. 1919. Wilbert J. Huff. Am Electrochem Soc Trans v 36, p 167-86.

On p 183-6 there are 30 references with abstracts.

Thermal problem in sulphuric acid manufacture. 1919. F. C. Zeisberg. Am Electrochem Soc Trans v 36, p 187-94.

On p 194 there are 26 patents on the manufacture of sulphuric acid by the contact process.

Ueber die verwendbarkeit und die katalytische wirkungsweise aromatischer sulfettsäuren bei der herstellung hochmolekularer ester. 1923. R. Escales and H. Levy. Kunststoffe v 13, p 25-8.

Has 52 bibliographical footnotes on the use of sulpho-fatty acids in the production of esters.

Uebersicht der die verwendung von edelmetallen und edelerden in der beleuchtungsindustrie betreffenden deutschen patente. 1923. Oelker. Edel Erden & Erze v 4, p 5-6.

A list of 25 German patents with abstracts on catalytic gas igniters.

Cedar, Essence of

Essence de cèdre de l'atlas. 1922. Massy. Chimie & Ind v 8, p 64E-5E.

On p 65E there are 11 references on the therapeutic uses of essence of cedar.

Cell pitch

Briquetting tests of lignite at Pittsburgh, Pa. 1908-9. 1912. Charles L. Wright. U S Bur Mines Bul 14. 64p.

Bibliography of lignite briquette manufacture in Germany on p 49-51; 7 references to sulphite liquor and cell-pitch on p 57;

and on p 63-4 is a list of references reviewing the literature on briquetting from 1899 to 1910.

Celluloid

Camphor substitutes in the manufacture of celluloid. 1921. Albert P. Sachs and Oscar Byron. *J Ind & Eng Chem* v 13, p 893-901.

On p 897-901 there is a list of U.S., German, French and British patents with brief notes on camphor substitutes.

Effects of heat on celluloid and similar materials. 1917. H. N. Stokes and H. C. P. Weber. *U S Bur Stand Tech Pa* 98, 40p.

On p 40 there are 26 references on nitro-cellulose and pyroxylin plastics, and the spontaneous combustion of celluloid.

Herstellung von zelluloidlacken. 1911. Max Schall. *Kunststoffe* v 1, p 201-4.

Abstracts from the patent literature on the manufacture of celluloid lacquers.

Herstellung von zelluloidlacken. 1916. Max Schall. *Kunststoffe* v 6, p 113-15.

Abstracts of about 15 patents on the preparation of celluloid lacquers.

Tabellarische uebersicht über die bei der zellhornbreitung verwendeten kampferersatzmittel. 1915. Max Schall. *Kunststoffe* v 5, p 241-3, 267-8.

A tabulation of patents with brief notes on camphor substitutes in the manufacture of celluloid.

Tabellarische uebersicht über die ersatzmittel für nitrozellulose bei der zellhorn darstellung. 1915. Max Schall. *Kunststoffe* v 5, p 287-8.

A tabulation of patents with brief notes on substitutes for nitrocellulose in the manufacture of celluloid.

Tabellarische uebersicht über die verfahren zur herstellung schwer entzündlicher zelluloidwaren. 1915. Max Schall. *Kunststoffe* v 5, p 207-10.

A tabulation of patents with brief notes on slow burning celluloid.

Verfahren zur herstellung von plastischer massen. 1911. Oskar Kausch. *Kunststoffe* v 1, p 62-5, 86-90, 109-11, 131-3, 170-2, 226-8, 250-2, 270-3, 290-2, 311-14, 332-6, 349-52.

Abstracts of the patent literature on the preparation of celluloid and other plastics.

Verfahren zur herstellung von zelluloid oder zelluloidartiger massen. 1914. S. Halen. *Kunststoffe* v 4, p 329-32.

A tabulation of patents with brief notes on the manufacture of celluloid and similar materials.

Cellulose

Die chemie der cellulose. 1911. Carl G. Schwalbe. Borntraeger, Berlin. 664p.

Has numerous bibliographical footnotes on the chemistry of cellulose and textile fibres.

Fibres, textiles, cellulose and paper. 1917. J. F. Briggs. *Soc Chem Ind annual repts appl chem* v 2, p 126-58.

Has 150 bibliographical footnotes for the year 1917. Abstracts are given in the text.

Fibres, textiles, cellulose and paper. 1918. J. F. Briggs. *Soc Chem Ind annual repts appl chem* v 3, p 115-46.

Has 112 bibliographical footnotes for 1918. Text has abstracts of these references.

Fibres, textiles, cellulose and paper. 1919. Sidney S. Napper. *Soc Chem Ind annual repts appl chem* v 4, p 114-36.

Has 132 bibliographical footnotes to articles issued during 1919. Text contains abstracts of these references.

Fibres, textiles, cellulose and paper. 1920. Sydney S. Napper. *Soc Chem Ind annual repts appl chem* v 5, p 125-49.

Has 163 footnotes to references abstracted in the text for the year 1920.

Fibres, textiles, cellulose and paper. 1921. Frank L. Barrett. *Soc Chem Ind annual repts appl chem* v 6, p 112-53.

Has 307 bibliographical footnotes for the year 1921. Abstracts are given in the text.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Phila. 691p.

On p 349-50 there is a list of books dating from 1894 to 1921 on cellulose and paper. On p 377 there is a list of 40 books on textile fibres dating from 1881 to 1919.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. Kausch. *Kunststoffe*, v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 158-70 there are about 150 annotated U.S. and foreign patents on packing material, rubber and rubber compositions, rubber substitutes, cellulose, condensation products, and plastic compositions.

Reactions of cellulose. 1920. Jesse E. Minor. *Paper* v 26, April 28, p 16-19.

Bibliography of 23 references on p 19.

Select bibliography of cellulose, paper and allied subjects. 1919. M. Hubbard. *Paper* v 25, no 4, p 32, 34, 36, 38, 40, 41, 46, 48, 50, 52; no 9, p 15-19; no 10, p 25.

More than 250 references are cited.

Some physical properties of cotton cellulose and its modifications. A summary of existing data. 1922. George E. Collins. *J Textile Inst* v 13, p 204-13.

Contains 87 references.

Cellulose acetate

Azetylzellulosen. 1914. L. Clément and C. Rivièr. *Kunststoffe* v 4, p 148-52, 166-8, 186-8.

Gives abstracts from the patent literature on cellulose acetate. Also has 17 bibliographical footnotes.

European practice in cellulose acetate and dopes during the war. 1921. Philip Drinker. *J Ind & Eng Chem* v 13, p 831-6.

On p 835-6 there are more than 38 references to patents and literature on cellulose acetate and airplane dopes.

Recent literature on the determination of cellulose. 1921. Clarence J. West. *Paper Tr J* v 72, (April 21) p 50+.

Has 35 references with very extensive notes.

Cellulose acetate—Continued

Zelluloseacetate und andere organische säureester der zellulose. 1912. E. J. Fischer. *Kunststoffe v 2*, p 48-52, 64-9. A table of German, French, English and U.S. patents with brief notes on the production and use of cellulose acetate and other cellulose esters. Covers the period 1894 to 1911.

Zelluloseacetate und andere organische säureester der zellulose. 1914. E. J. Fischer. *Kunststoffe v 4*, p 102-5, 123-6. A tabulation of U.S. and foreign patents with brief notes on cellulose acetate and other cellulose esters. Covers the period 1910 to 1913.

Cellulose esters

Formylzellulosen. 1912. Edward C. Worden and Leo Rutstein. *Kunststoffe v 2*, p 325-8. Has 65 bibliographical footnotes on the formic acid esters of cellulose.

Neuere lösungsmittel für harze und lacke, zelluloseester, kautschuk, usw. 1916. E. J. Fischer. *Kunststoffe v 6*, p 244-6, 259-61.

A tabulation of patents with brief notes on solvents for lacquers, cellulose esters, rubber, etc.

Neuerungen auf dem gebiete der zelluloseesterlacke. 1922. Mehren. *Kunststoffe v 12*, p 99-100.

Abstracts of patents on lacquers made of cellulose esters.

Cement (building material)

Cement, lime and gypsum, in general. 1917. *Am Inst Arch J v 5*, p 576. Has 20 references.

Cements, limes and plasters. 1921. R. K. Hursh. *J Ind & Eng Chem v 13*, p 477-8. Describes 8 books that deal with cements, limes and plasters.

Effect of electrolytes on cement, as reported by a number of investigators. 1918. J. C. Witt. *Philippine J Sci v 13*, p 30-4. Has 60 annotated references.

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co, N.Y.* 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cements, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Portland cement materials and industry in the U.S. 1913. Edwin C. Eckel. *U S Geol Sur Bul 522*. 401p.

Bibliography of papers on cement, concrete and cement materials, on p 375-81. Consists chiefly of papers published by U.S. Geological Survey, state geological surveys and other government bureaus. About 150 references.

Silica and the silicates. 1921. James A. Audley. Baillière, London. 374p.

Bibliographies are at the ends of the various sections, more than 100 references in all. Silica, p 45; silicates, p 122; lime, cement and mortar, p 167; ceramic industries, p 272; glass and enamels, p 334; and miscellaneous applications, p 357.

Cement dust

Literature of the potash industry, 1912-1917. 1918. F. W. Bruckmiller. *Chem & Met Eng v 19*, p 447-9.

159 references arranged by subject on statistics, kelp, brines, wood ashes, and cement dust.

Recovery of potash from iron blast furnaces and the cement kilns by electrical precipitation. Bibliography. Linn Bradley. *J Ind & Eng Chem v 10*, p 837-8.

A brief bibliography of 38 references from 1916 to 1918.

Cements

Diatomaceous earth. 1920. Norris Goodwin. *Chem & Met Eng v 23*, p 1158-60.

On p 1159-60, there are about 150 references on occurrence, tests of diatomaceous earth, patents on its use as filtering agent, building material, in paints, cements and polishing compounds.

Die während des krieges patentierten und bisher bekannt gewordenen erfindungen auf dem gebiete der kitt, leim, und klebmittelfabrikation. 1919. S. Halen. *Kunststoffe v 9*, p 129-31, 146-7.

Gives a list of patents with brief notes on the manufacture of cements, adhesives and glues.

Im gewerbe, in der industrie und im haushalt verwendbare kitte. 1912. S. Halen. *Kunststoffe v 2*, p 321-5, 368-71.

Abstracts from the patent literature of cements and glues from resins, rubber, oil, albuminoids, and mineral cements.

Kitte, kleb und bindemittel. 1917. M. Schall. *Kunststoffe v 7*, p 57-9.

Reviews the patent literature on glues and binders.

Ceramics

Bibliography in Philippine pottery. 1912. C. H. Crowe. *Am Ceramic Soc Trans v 14*, p 730.

Has 5 references.

Bibliography of clays and the ceramic arts. 1896. John C. Branner. *U S Geol Sur Bul 143*. 114p.

About 2500 references arranged by author.

Bibliography of clays and the ceramic arts. 1906. J. C. Branner. *Am Ceramic Soc*. 451p.

Has 6027 references.

Ceramics and building materials. 1919. W. J. Rees. *Soc Chem Ind annual repts appl chem v 4*, p 189-201.

54 footnote references for 1919 with abstracts in the text.

Ceramics and building materials. 1920. Walter C. Hancock. *Soc Chem Ind annual repts appl chem v 5*, p 215-28.

Has 84 bibliographical footnotes. Abstracts are given in the text.

Ceramics and building materials. 1921. W. Emery. *Soc Chem Ind annual repts appl chem v 6*, p 229-56.

Has 101 bibliographical footnotes. Abstracts are given in the text.

Chemical role of boron in glazes. 1912. Ross C. Purdy. *Am Ceramic Soc Trans v 14*, p 731-9.

Has 20 bibliographical footnotes.

Comparative means of making porosity and absorption measurements. 1916. F. W. Walker. *Am Ceramic Soc Trans* v 18, p 447.

There are 11 references on the testing of ceramic materials.

Fusion study of the mineral systems feldspar-calcite and feldspar-magnesite. References. 1916. F. A. Kirkpatrick. *Am Ceramic Soc Trans* v 18, p 615-18.

There are 80 references on deformation, fusion and fusibility, fluxing, melting, thermal properties and physical chemistry of various ceramic mixtures.

Glass and ceramics. 1916. J. A. Audley. *Soc Chem Ind annual repts appl chem* v 1, p 133-49.

Has 84 footnote references for the year 1916. Text abstracts these references.

Glass, refractory materials, ceramics and building materials. 1917. W. J. Rees. *Soc Chem Ind annual repts appl chem* v 2, p 204-41.

Has 131 footnote references for the year 1917. Abstracts are given in the text.

List of publications on ceramic investigations. 1923. U S Bur Mines repts invest 2437.

A compilation of 92 references to papers on materials used in ceramics.

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 17-29 there are about 150 U.S. and foreign patents on ceramics, magnesia and other refractories, with notes.

Quarz und sand als rohstoffe für die feinkeramik. 1922. Max Pulfrich. *Tonindustrie Zeit* v 46, p 936-8.

On p 937-8 there are 21 references on quartz and sand in ceramics.

Selected bibliography of books in the English language dealing with ceramic chemistry and the ceramic industries. 1921. *J Ind & Eng Chem* v 13, p 476-8.

Contains about 30 titles of books dealing with clay and clay products, glass, vitreous enamels, refractories, cements, limes and plasters, with a review of each.

Silica and the silicates. 1921. James A. Audley. *Baillière*, London. 374p.

Bibliographies are at the ends of the various sections, more than 100 references in all. Silica, p 45; silicates, p 122; lime, cement and mortar, p 167; ceramic industries, p 272; glass and enamels, p 334; and miscellaneous applications, p 357.

Cerium

Indexes to the literature of cerium and lanthanum. 1895. W. H. Magee. *Smithsonian misc col*. 43p.

Covers the period from 1751 to 1894.

Metals of the rare earths. 1919. James F. Spencer. *Longmans*, Green, London.

References are given on p 241-62. More than 1029 references dating 1800 to 1918 on cerium, yttrium and the thorium group.

Neue arbeiten auf dem gebiete der seltenen erden und ihre verbindungen. 1921. S. Halen. *Edel Erden & Erze* v 2, p 185-6.

Outlines the literature of the rare earths in general, then that on cerium, yttrium, gadolinium, holmium, scandium and samarium for the years 1917 to 1920.

Wave lengths longer than 5500A in the arc spectra of yttrium, lanthanum and cerium, and the preparation of pure rare earth elements. 1921. C. C. Kiess and others. *U S Bur Stand Sci Pa* 421, v 17, p 317-51.

Contains about 35 bibliographical footnotes.

Cheese

Bacterial flora of roquefort cheese. 1918. Alice C. Evans. *J Agr Research* v 13, p 225-33.

On p 233 there are 8 references from 1906 to 1918.

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. *Wiley*, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in medical treatment, breadmaking, cheeses, yeasts, etc.

Study of the streptococci concerned in cheese ripening. 1918. Alice C. Evans. *J Agr Research* v 13, p 235-52.

Has bibliography on p 251-2 of 23 references. A number of the references given also contain bibliographies.

Chemical constitution

Color in relation to chemical constitution, 1918. Edwin R. Wilson. *Longmans*, Green, London.

Bibliography on p 181-90 has 200 references.

Influence of molecular constitution upon the internal friction of gases. 1905. F. M. Pederson. *McIlroy*, N.Y. 59p.

On p 54-9 there are 170 references arranged by author.

Chemical engineering

Industrial chemistry for engineering students. 1913. H. K. Benson. *Macmillan*, N.Y. 431p.

There are bibliographies at the ends of the chapters on chemical engineering and applied chemical subjects.

Plant and machinery. 1919. W. B. Davidson. *Soc Chem Ind annual repts appl chem* v 4, p 7-19.

Has 30 footnote references chiefly to patents on chemical plants, equipment and machinery for the year 1919.

Plant and machinery. 1920. W. B. Davidson. *Soc Chem Ind annual repts appl chem* v 5, p 5-17.

Has 38 bibliographical footnotes on chemical plant and machinery for the year 1920.

Plant and machinery. 1921. W. H. Coleman. *Soc Chem Ind annual repts appl chem* v 6, p 5-10.

Reviews the literature for 1921 and gives 27 bibliographical footnotes.

Chemical machinery

Plant and machinery. 1918. J. W. Hinchley. *Soc Chem Ind annual repts appl chem* v 3, p 7-17.

Has 37 footnote references chiefly to patent literature on chemical plant and machinery for the year 1918.

Chemical machinery—Continued

Plant and machinery. 1919. W. B. Davidson. Soc Chem Ind annual repts appl chem v 4, p 7-19.

Has 30 footnote references chiefly to patents on chemical plants, equipment and machinery for the year 1919.

Plant and machinery. 1920. W. B. Davidson. Soc Chem Ind annual repts appl chem v 5, p 5-17.

Has 38 bibliographical footnotes on chemical plant and machinery for the year 1920.

Plant and machinery. 1921. W. H. Coleman. Soc Chem Ind annual repts appl chem v 6, p 5-10.

Reviews the literature for 1921 and gives 27 bibliographical footnotes.

Chemical warfare

Chemical warfare. 1919. C. J. West. Special Libraries v 10, p 225-36.

A bibliography of about 550 references.

Gases used in warfare. 1919. D. D. Berolzheimer. J Ind & Eng Chem v 11, p 256.

About 80 references to some thirty various gases used in warfare. References are to standard textbooks.

Poisonous gases in warfare, application, prevention, defense and medical treatment. 1918. Henry E. Haferkorn. Press of the Engr School, Washington, D.C. Reprint from Prof Mem Corps of Engrs U S Army v 9, no 48.

A bibliography of 267 references.

Chemistry

Comprehensive treatise on inorganic and theoretical chemistry. 1922. J. W. Mellor. Longmans, Green, London.

This work aims at a complete description of each element and inorganic compound. Six volumes will comprise the set, which has an arrangement based on the periodic law. Exhaustive lists of references are given throughout the series.

History of chemistry. 1918. F. J. Moore. McGraw-Hill, N.Y.

Short bibliographies are given at the end of each chapter.

Select bibliography of chemistry. 1893. Henry C. Bolton. Smithsonian Misc col v 36, 1212p.

A collection of titles of the principal books on chemistry (pure and applied) that have been published in Europe and America from the rise of the literature to the close of the year 1892. Divided into 7 sections: bibliography, dictionaries, history, biography, chemistry, alchemy and periodicals. On p 1-37 there are about 250 references to general bibliographies on chemistry and chemical subjects all prior to 1890.

Chewing gum

U S Library of Congress. List of references on chicle and chewing gum. 1922. 4 typewritten pages. 50 cents.

Chicle

U S Library of Congress. List of references on chicle and chewing gum. 1922. 4 typewritten pages. 50 cents.

China wood oil

Polymerization of Chinese wood oil. 1916. Carl L. Schumann. J Ind & Eng Chem v 8, p 5-15.

Has 45 bibliographical footnotes on China wood oil.

Chlorides

Bibliography of electrochemical chlorate and perchlorate formation. 1921. Faraday Soc Trans v 16, p 432-3.

Has 39 references on electrolytic hypochlorites and the electrolysis of alkali chlorides.

Manufacture of chemicals by electrolysis. Alkali chlorides. 1923. A. Clarke. Beama v 12, p 348-55.

There are 53 references on p 355 to about 100 patents and articles.

Chloridization

Chloride volatilization process of ore treatment. 1923. Thomas Varley and others. U S Bur Mines Bul 211. 99p.

On p 93-5 there are about 50 patents on chloridization and volatilization of metals and the removal of particles from gases.

Chlorine

Edelmetalle und verbindungen der seltenen erden als kontaktstoffe. 1919. S. Halen. Edel Erden & Erze v 1, p 51-3, 76-9, 89-91, 102-5, 111-15.

Abstracts the patent literature on catalytic agents in contact processes: sulphuric acid, hydrogenation of fats and oils, preparation of chlorine, catalytic ammonia, ammonia oxidation and production of organic compounds.

Studies in actinochemistry. 1917. Horace H. Curtis. J Fr Inst v 184, p 617-36, 849-84.

Has 249 bibliographical footnotes on actinochemistry, including the action of chlorine.

Cholesterol

Biochemical studies of cholesterol. Bibliography. 1913. Joseph S. Hepburn. J Fr Inst v 176, p 449-52.

100 references on the chemistry of cholesterol from 1815 to 1913.

Chromite

Chrome refractories. 1922. J. Spotts McDowell and H. S. Robertson. Am Ceramic Soc J v 5, p 864-87.

On p 882-7 there is a chronological list of about 100 references on chromium deposits and refractories, especially chromite from 1882 to 1921. Also contains a number of valuable bibliographical footnotes.

Chromium

Chrome ore and chromium. 1920. Great Britain. Imperial resources bureau. London. 29p.

On p 26-9 there are 80 references on chrome ore and chromium covering the war period from 1913 to 1919.

Influence of copper, manganese and chromium and some of their combinations on the corrosion of iron and steel. 1920. E. A. Richardson and L. T. Richardson. Am Electrochem Soc Trans v 38, p 221-33.

11 references are given on page 233

Mordants. 1922. Wilder D. Bancroft. J Phys Chem v 26, p 447-70, 502-36, 736-72.

Pt 1 has 26 bibliographical footnotes on the general theory of mordants, pt 2 has 61 bibliographical footnotes on alumina, and pt 3 has 42 bibliographical footnotes on chrome.

Preliminary study of the alloys of chromium, copper and nickel. Historical review. 1916. D. F. McFarland and Oscar E. Harder. Ill U Eng Expt Sta Bul 93, p 52-7.

Has 22 footnotes giving the original sources of the information contained in the text.

Chromium steel. See Steel alloys

Cigarette paper. See Paper, cigarette

Citrus fruits

Some constituents of the American grapefruit. 1918. Harper F. Zoller. J Ind & Eng Chem v 10, p 364-74.

On p 373-4 there are 42 references on the citrus fruits, including references to the chemical study of them.

Clay

Bibliography of clays and the ceramic arts. 1896. John C. Branner. U S Geol Sur Bul 143. 114p.

About 2500 references arranged by author.

Bibliography of clays and the ceramic arts. 1906. J. C. Branner. Am Ceramic Soc. 451p.

Has 6027 references.

Clay in the paper industry. 1921. C. J. West. Paper Tr J v 72, (June 2) p 52+.

A bibliography of about 100 references.

Clayworker's pocketbook. 1921. Alfred B. Searle. Griffin, London. ed 3.

Bibliography on p 344-54 gives references to standard books and journals dealing directly with some branch of clay working. 326 references.

Colloid matter of clay and its measurement. 1909. H. E. Ashley. U S Geol Sur Bul 388 85p.

On p 59-62 there are 87 references.

Effect of some electrolytes on clay. 1914. Robert Back. Am Ceramic Soc Trans v 16, p 515-46.

Has 12 bibliographical footnotes.

Plasticity of clay. 1914. N. B. Davis. Am Ceramic Soc Trans v 16, p 65-79.

Has 46 bibliographical footnotes.

Coagulation

See also Colloids

Coagulation of colloids. 1922. Arne Westgren and Josep Reitstötter. J Phys Chem v 26, p 537-48.

On p 547-8 are 13 references to works quoted in the text.

Physical properties of colloidal solutions. 1921. E. F. Burton. Longmans, Green, London. 221p.

On p 192-5 there are about 110 references on the coagulation of colloidal solutions.

Zur theorie der koagulationgeschwindigkeit. 1918. H. Freundlich. Kolloid Zeit v 18, p 163-73.

Has 41 bibliographical footnotes on the theory of the velocity of coagulation.

Coal

Beiträge zur kenntnis natürlicher gasausströmungen. 1913. Emerich Czako. Braun, Karlsruhe. 85p.

On p 81-2 there are 20 references on the analysis of mine gases and gases occluded by coal.

Coal and its scientific uses. 1918. William A. Bone. Longmans, Green, London. 491p.

Bibliography of "the best works of references upon coal" on p 481-3. Has 54 references.

Chemistry of coal. 1919. John B. Robertson. Gurney, London. 96p.

Bibliography of 88 references on p 91-4 referred to in the text. Deals with occurrence, origin, distillation, analysis, oxidation and chemistry of coal.

Fusibility of coal ash and the determination of the softening temperature. 1918. A. C. Fieldner and others. U S Bur Mines Bul 129.

There are 187 references on p 119-38 with abstracts on the fusibility and clinkering of coal, laboratory furnaces for high temperature work, physical chemistry of slag and silicates, melting and softening temperatures of oxides, sulphides, silicates; pyrometric cones, pyrometers, and the measuring of high temperatures.

Investigation of the coals of Canada with reference to their economic qualities. 1915. J. B. Porter. Canada Dept Mines, Mines Branch; extra volume, supplementary report 83, Weathering of coal. 194p.

Bibliography on p 184-8. Has 115 references arranged by author.

Monograph on the constitution of coal; based on a paper read before the London section of the Soc Chem Ind. 1918. Marie C. Stopes and R. V. Wheeler. London.

Bibliography on p 46-57 has about 400 references.

New views of the combustion of the volatile matter in coal. 1918. S. H. Katz. U S Bur Mines Tech Pa 183.

Contains about 30 bibliographical footnotes on the chemistry of the volatilization of coal and the mechanism of the combustion of hydrocarbons.

Occluded gases in coal. Bibliography. 1909. S. W. Parr and Perry Barker. Ill U Eng Expt Sta Bul 32, p 4-11.

An historical resumé of the literature of this subject with footnotes giving the original references.

Powdered coal as fuel. 1920. Cecil F. Herington. Van Nostrand, N.Y. 338p.

Bibliography on p 305-24 has about 300 references.

Sull'esauroimento di ligniti italiane con solventi. 1921. Pietro Falcicola. Gior di Chim Ind v 3, p 546-8.

On p 547 there are 46 references from 1879 to 1920 on the extraction of soluble substances from coal.

Use of low grade mineral fuels and the status of powdered coal. References. F. P. Coffin. Gen Elec Rev v 20, p 631.

Has 26 references.

Volatile matter of coal. 1910. H. C. Porter and F. K. Ovit. U S Bur Mines Bul 1.

Has about 25 bibliographical footnotes.

Coal analysis

Analysis of coal with phenol as a solvent. 1914. S. W. Parr and H. F. Hadley. Ill U Eng Expt Sta Bul 76, p 36-41.

An historical summary with bibliographical footnotes.

Coal analysis—Continued

Graphic studies of ultimate analyses of coal. 1915. O. C. Ralston. U S Bur Mines Tech Pa 93. 31p.

On p 37-8 there are 41 references on the origin and analysis of coal.

Standard methods for sampling and analyzing coal. 1917. A. C. Fieldner and others. Pan Am Sci Cong, Washington, D.C. Pro v 8, p 845-56.

Has 29 references on p 855-6. There are also 24 bibliographical footnotes.

Coal distillation

See also Coke, gas manufacture

Bibliography of products of gas manufacture; conditions prevailing in the by-product market as shown by a compilation of references to the more important articles published in Gas Age and other periodicals since 1910. 1915. Gas Age v 35, p 321-4, 384-7, 446-7.

About 370 references arranged chronologically covering the period 1910 through 1914.

Chemistry of gas manufacture. 1915. W. F. Rittman and M. C. Whitaker. Gas Age v 36, p 412-13, 460-2, 512-14.

Selected bibliography of 267 references on carbonization and distillation of coal, gas manufacture, water gas, gas producers, petroleum distillation, oil gas, chemical equilibrium and catalysis in the gas industry.

Coal and its scientific uses. 1918. William A. Bone. Longmans, Green, London. 491p.

On p 481-3 is a list of 54 references that try to cover the entire field of coal, its treatment and uses. Other references are given throughout the text.

Decomposition processes applicable to certain products of coal carbonization. 1922. M. J. Bradley and S. W. Parr. Chem & Met Eng v 27, p 737-46.

There are 26 references on p 746.

Der heutige stand der kohlenforschung. 1917. F. Fischer. Stahl & Eisen v 37, p 346-53, 369-73.

On p 372-3 there are 38 references on low temperature distillation of coal and tar products from low temperature distillation.

Gas, destructive distillation, tar products. 1916. E. V. Evans. Soc Chem Ind annual repts appl chem v 1, p 31-60.

Reviews the literature for 1916 and gives 75 bibliographical footnotes.

Gas, destructive distillation, tar products. 1917. E. W. Smith. Soc Chem Ind annual repts appl chem v 2, p 52-68.

Has 22 bibliographical footnotes for the year 1917.

Gas, destructive distillation, tar products. 1918. Alwyne Meade. Soc Chem Ind annual repts appl chem v 3, p 41-62.

Reviews the literature for 1918 and gives 55 bibliographical footnotes.

Gas, destructive distillation, tar products. 1919. E. V. Evans. Soc Chem Ind annual repts appl chem v 4, p 41-65.

Reviews the literature for 1919 and gives 50 bibliographical footnotes.

Gas, destructive distillation, tar products. 1920. Geoffrey Weyman. Soc Chem Ind annual repts appl chem v 5, p 42-70.

Has 123 bibliographical footnotes for 1920. The text contains abstracts of these references.

Gas, destructive distillation, tar products. 1921. Geoffrey Weyman. Soc Chem Ind annual repts appl chem v 6, p 38-66.

Has 137 footnote references for 1921. The text gives abstracts of these references.

General metallurgy. 1913. H. O. Hofman. McGraw-Hill, N.Y. 909p.

The footnotes to the article on coke on p 225-84 constitute what is probably the best bibliography on this subject.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 476-7 there is a list of 50 books dating from 1877 to 1922 on coal distillation, coke and byproducts.

Low temperature carbonisation of bituminous coal. 1923. Andrew McCulloch and Neville Simpkin. Witherby, London. 248p.

There are 125 references on p 227-36.

Studies in the carbonization of coal; characteristics of low temperature coal tar. 1922. Jerome J. Morgan and Roland P. Soule. Chem & Met Eng v 26, p 923-8, 977-81.

Has numerous bibliographical footnotes on the tars from coals.

Coal dust

Coal dust explosion tests in the experimental mine, 1913 to 1918 inclusive. 1922. George S. Rice. U S Bur Mines Bul 167. 639p.

On p 591-607 there are 256 references with brief notes on the explosibility of coal dust.

Coal dust explosion tests in the experimental mine, 1913 to 1918 inclusive. 1922. George S. Rice. U S Bur Mines Bul 167. 639p.

On p 610-25 is a selected bibliography on the explosibility of coal dust in surface plants, grain dust explosions, and the explosibility of waste and miscellaneous dusts. 53 references.

Explosibility of coal dust. 1910. G. S. Rice. U S Geol Sur Bul 425. 186p.

On p 168-82 there are 300 references from 1800 to 1909 on the coal dust problem.

Explosibility of coal dust. 1911. G. S. Rice. U S Bur Mines Bul 20. 204p.

On p 184-99 there is a selected bibliography on coal dust explosions, from 1800 to 1910, arranged chronologically in groups of 5 and 10 years. Brief notes are given.

Coal gas. See Gas manufacture

Coal tar

See also Coke, byproducts

Coal tar as a source of fuel for heat and power uses. 1923. Wilbert J. Huff. Gas Age v 52, p 93-7.

There are 31 references on p 97.

Der heutige stand der kohlenforschung. 1917. F. Fischer. Stahl & Eisen v 37, p 346-53, 369-73.

On p 372-3 there are 38 references on low temperature distillation of coal and tar products from low temperature distillation.

Gas, destructive distillation, tar products. 1916. E. V. Evans. Soc Chem Ind annual repts appl chem v 1, p 31-60.

Reviews the literature for 1916 and gives 75 bibliographical footnotes.

- Gas, destructive distillation, tar products.
1917. E. W. Smith. Soc Chem Ind annual repts appl chem v 2, p 52-68.
Has 22 bibliographical footnotes for the year 1917.
- Gas, destructive distillation, tar products.
1919. E. V. Evans. Soc Chem Ind annual repts appl chem v 4, p 41-65.
Reviews the literature for 1919 and gives 50 bibliographical footnotes.
- Gas, destructive distillation, tar products.
1920. Geoffrey Weyman. Soc Chem Ind annual repts appl chem v 5, p 42-70.
Has 123 bibliographical footnotes for 1920. The text contains abstracts of these references.
- Gas, destructive distillation, tar products.
1921. Geoffrey Weyman. Soc Chem Ind annual repts appl chem v 6, p 38-66.
Has 137 footnote references for 1921. The text gives abstracts of these references.
- Studies in the carbonization of coal; characteristics of low temperature coal tar.
1922. Jerome J. Morgan and Roland P. Soule. Chem & Met Eng v 26, p 923-8, 977-81.
Has numerous bibliographical footnotes on the tars from coals.
- Cobalt**
Electrodeposition of cobalt and nickel.
1913. Oliver P. Watts. Am Electrochem Soc Trans v 23, p 99-152.
On p 150-2 there is a list of 100 papers that are referred to in the text.
- Cobalt oxide**
Colors developed by cobalt oxide dyes.
1921. H. J. Witteveen and E. F. Farnan. J Ind & Eng Chem v 13, p 1061-6.
There are 47 references on p 1065-6.
- Coke**
By-product coking. 1915. Pittsburgh Carnegie Library mo bul v 20, p 128-63.
A bibliography of about 350 references on coking, by-product coking, coal tar products, ammonia, intermediates, coke ovens and coke oven gas.
- Coal and coke. 1910. F. W. Parsons. Mineral Ind v 19, p 108-48.
Bibliography on p 144-8 has about 100 references on coal mines and mining, coke and its by-products, etc for 1910.
- Coking of coal at low temperatures. 1912. S. W. Parr and H. L. Olin. Ill U Eng Expt Sta Bul 60.
Has bibliographical footnotes.
- Coking of Illinois coals. 1917. F. K. Ovitiz. U S Bur Mines Bul 138. 71p.
There are 16 references on p 65.
- General metallurgy. 1913. H. O. Hofman. McGraw-Hill, N.Y. 909p.
The footnotes to the article on coke on p 225-84 constitute what is probably the best bibliography on this subject.
- Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.
On p 476-7 there is a list of 50 books dating from 1877 to 1922 on coal distillation, coke and byproducts.
- Some economic considerations in coke oven practice. 1919. W. Colquhoun. Inst Min Eng v 56, i, p 61-90; ii, p 153-62.
Contains a bibliography of 165 references on coking practice, tar and ammonia, benzol recovery, and descriptions of coke oven plants.
- Ueber die fortschritte in der gewinnung der nebenprodukte beim kokereibetriebe. 1910. C. Rau. Stahl & Eisen v 30, p 1246-7, 1297.
Has 136 references on coke manufacture, coke ovens, by-product coking, etc.
- Coke, By products**
See also Coal tar
- By-products and gas manufacture. 1915. Gas Age v 35, p 321-4, 384-7, 446-7.
About 350 references to the more important articles published in Gas Age and other periodicals from 1910 to 1914.
- Bibliography of by-products of gas manufacture. 1915. Gas Age v 35, p 321-4, 384-7, 446-7.
Covers the period 1910 to 1914 and has more than 400 references on by-products in gas manufacture.
- Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.
On p 476-7 there is a list of 50 books dating from 1877 to 1922 on coal distillation, coke and byproducts.
- Literature of the nitrogen industries. 1917. Helen R. Hosmer. J Ind & Eng Chem v 9, p 425-38.
Reviews literature of nitrogen fixation, Haber process, ammonia synthesis, Ostwald process, ammonia from byproduct coke ovens, and calcium cyanamide. 152 papers are referred to and listed on p 437-8. Covers the period from 1912 to 1916.
- Some economic considerations in coke oven practice. 1919. W. Colquhoun. Inst Min Eng v 56, i, p 61-90; ii, p 153-62.
Contains 166 references with annotations on carbonization of coal, descriptions of plants and recovery of byproducts. Covers the period 1900 to date.
- Coke ovens**
By-product coke ovens. 1912. William E. Hartman. Eng Soc W Pa Pro v 28, p 357.
A bibliography of 16 references from 1907 to 1911.
- Colloids**
Bibliographie der kolloide. 1904. Arthur Müller. Zeit anorg Chem v 39, p 121-48.
About 356 references grouped by subject on colloids.
- Coagulation of colloids. 1922. Arne Westgren and Josep Reitstötter. J Phys Chem v 26, p 537-48.
On p 547-8 are 13 references to works quoted in the text.
- Colloid chemistry in textile industries. 1920. W. Harrison. Color Tr J v 6, p 50-5, 91-5.
Bibliographical references are given throughout the text.
- Colloid development. 1921. J Ind & Eng Chem v 13, p 357-8.
Contains a list of 25 reference books on colloid chemistry and states the limitations of each book.
- Colloid matter of clay and its measurement. 1909. H. E. Ashley. U S Geol Sur Bul 388. 65p.
On p 59-62 there are 87 references.

Colloids —Continued

Colloids and colloidal slimes. 1916. E. E. Free. Eng & Min J v 101, p 249-54, 429-32, 509-13, 681-6.

Has more than 100 footnote and bibliographical references on the theory of colloids and colloidal slimes, sedimentation and flocculation, and rate of settling of slimes.

Colloids and surface tension. 1916. J. Cunningham. Missouri U Bul 8, p 44-51. Also Am Inst Min Eng Bul 115, p 1131-6. A list of 86 references.

Consistency of pectin gels. 1916. Jas. B. McNair. J Phys Chem v 20, p 633-9. On page 639 there are 9 references on pectin gels.

Der kautschuk. 1912. Rudolf Ditmar. Springer, Berlin. 140p. Gives references at the beginning of each chapter. Deals with the colloid chemistry of rubber. There are about 200 patents on the regeneration of rubber on p 114-24.

Effective potential difference of electro-osmosis and allied phenomena. 1921. H. Freundlich. Faraday Soc Trans v 16, pt 3, p 146-9. There are 17 references on p 149.

Electric endosmosis and cataphoresis. 1921. Alfred W. Porter. Faraday Soc Trans v 16, pt 3, p 135-40. On p 140 there are 7 references.

Emulsions and emulsification. 1921. Faraday Soc Trans v 16, pt 3, p 17-21. On p 18-21 there is a list of about 80 references on emulsions.

Fluidity and plasticity. 1922. E. C. Bingham. McGraw-Hill, N.Y. 435p. Bibliography on p 347-429 of more than 1500 references, with author index, on internal friction, diffusion, viscosity, fluidity, colloidal solutions and lubrication.

General review and bibliography of dyeing. 1919. P. E. King. Color Tr J v 5, p 164-9; v 6, p 18-23. A brief article reviewing the theory of dyeing and giving references to the literature throughout the article. Discusses chemical theory, mechanical theory, colloid diffusion and adsorption theory and electrical theory.

Hydrous oxides. 1920. Harry B. Weiser. J Phys Chem v 24, p 277-328. Has 66 biographical footnotes.

Index to the literature of colloids. 1901. W. R. Whitney and J. E. Ober. Am Chem Soc J v 23, p 856-63. An excellent bibliography with brief comments of work on colloids published from 1851 to 1901. About 150 references.

Kolloidchemie und erdölindustrie. 1922. Rudolph Koetschau. Kolloid Zeit v 31, p 314-19. Contains 29 bibliographical footnotes on the colloid chemistry of petroleum.

Kolloidchemie und metallurgie. 1922. H. Meyer. Kolloid Zeit v 31, p 310-13. Contains 10 bibliographical footnotes on the colloid chemistry of metallurgy.

Kolloidchemie und photographie. 1917. Lüppe-Cramer. Kolloid Zeit v 21, p 28-32, 77-81, 154-5. Has 32 bibliographical footnotes on the colloid chemistry of photography.

Kolloide lösungen von kohlenstoff im wasser. 1922. P. C. L. Thorne. Kolloid Zeit v 31, p 119-32. Has 71 bibliographical footnotes on colloidal solutions of carbon in water.

Migration and flocculation of colloids. 1906. Harrison E. Patten. Am Electrochem Soc Trans v 9, p 277-88. Has about 80 bibliographical footnotes.

On negative adsorption. 1914. A. M. Williams. Faraday Soc Trans v 10, p 155-9. Has 11 bibliographical footnotes.

On the preparation of colloid manganese dioxide. 1921. Eustace J. Guy. J Phys Chem v 25, p 415-17. On p 417 there are 8 references.

Phenomena of flocculation and deflocculation. 1910. E. E. Free. J Fr Inst v 170, p 46-57.

Bibliography on p 54-7 has 60 references on suspension and flocculation in general and on the mechanics of suspension.

Physical properties of colloidal solutions. 1921. E. F. Burton. Longmans, Green, London. 221p.

On p 7 there is a list of 19 references on general questions of colloids; 33 references on p 26-7 on their preparation and classification; 46 references on p 48-50 on the ultramicroscope; 54 references on p 94-5 on the Brownian movement; 45 references on p 120-1 on the optical properties of colloidal solutions; 16 references on p 131 on the size of ultramicroscopic particles; 38 references on p 153-4 on the motion of particles in an electric field; on p 192-5 about 110 references on coagulation of colloids; 31 references on p 207-8 on the stability of colloidal solutions; 18 references on p 213 on applications of colloidal solutions.

Possibilities in the application of colloid chemistry to the production of clean steel. Selected bibliography. 1923. H. W. Gillette. Am Inst Min Eng advance paper. 11p mimeographed. There are 44 references with extensive notes.

Properties and constitution of glues and gelatines. 1920. Robert H. Bogue. Chem & Met Eng v 23, p 197-203.

On p 201-3 there are about 160 references on the manufacture, physical properties, tests, chemical constitution and structure of glues and gelatines, together with colloidal considerations and the significance of the hydrogen ion.

Review of the literature of emulsions. 1920. Arthur W. Thomas. J Ind & Eng Chem v 12, p 177-81.

A review of the literature and gives 42 bibliographical footnote references.

Settling problems. 1920. W. A. Deane. Am Electrochem Soc Trans v 37, p 97-100. Has about 70 references on the important recent books and articles on colloids and settling.

Short survey of the physics and chemistry of colloids. 1921. The Svedberg. Faraday Soc Trans v 16, pt 3, p 2-13. A list of about 100 references is given on p 11-13.

Size frequency distribution of particles. 1921. E. P. Wightman and S. E. Sheppard. J Phys Chem v 25, p 561-94. On page 565 there is a selected bibliography of 16 references on Stokes law.

Soaps and proteins; their colloid chemistry in theory and practice. 1921. Martin H. Fischer. Wiley, N.Y. 272p.

A list of 11 papers consulted is given on p 257. There are also about 100 footnote references cited throughout the book.

Sur la composition des écumes. 1923. J. Chatelan. Jour de Chimie Phys v 20, p 123-31.

There are 21 references on p 131 on foams.

Ueber den kolloiden Zustand der radioaktiven Stoffe. 1917. Hilary Lachs. Kolloid Zeit v 21, p 165-76.

Has 48 bibliographical footnotes on the colloid chemistry of radioactive substances.

Ueber die Absorption organischer Farbstoffe durch kolloid veranlagte Bodenarten, Tone, usw. 1916. Wilhelm Graf. Kolloid Zeit v 19, p 165-72.

14 references are given on p 172 on the absorption of organic dyes by clay, etc.

Ueber kolloides Platin. 1916. A. Gutbier and A. Wagner. Kolloid Zeit v 19, p 298-302.

Has 53 bibliographical footnotes.

Use of colloids in the electrodeposition of metals. 1921. W. E. Hughes. Faraday Soc Trans v 16, pt 3, p 130-1.

There are 8 references on p 131.

Zur Kenntnis des Flockungsvorganges. 1919. H. R. Kruyt and J. van der Spek. Kolloid Zeit v 15, p 1-4.

Has 46 bibliographical footnotes on flocculation.

Zur Theorie der Koagulationsgeschwindigkeit. 1918. H. Freundlich. Kolloid Zeit v 18, p 163-73.

Has 41 bibliographical footnotes on the theory of coagulation.

Color

Color in relation to chemical constitution. 1918. Edwin R. Watson. Longmans, Green, London.

Bibliography on p 181-90 has 200 references.

Colorimetry

Colorimetric determination of manganese by oxidation with periodate. 1917. H. H. Willard and L. T. Greathouse. Am Chem Soc J v 39, p 2366-77.

On p 2376-7 there is a bibliography of 34 references on the colorimetric determination of manganese.

Report of committee on colorimetry for 1920-1921. 1922. L. T. Troland. Optical Soc Am J v 6, p 527-96.

There are 98 references on p 592-6.

Combustion

See also Coal, fuels, smoke prevention

Chemistry of combustion. 1922. J. Newton Friend. Gurney, London. 110p.

Bibliography on p 101-7 has about 100 references to literature cited in the text.

Engine room chemistry. 1922. Augustus H. Gill. McGraw-Hill, N.Y. 174p.

There are 20 references at the end of the chapter on regulation of combustion, p 82-3.

Fuel conservation by the economical combustion of soft coal. 1917. Gustus L.

Larson. Wisconsin U Eng Ser Bul v 8, p 427-90.

On p 489 there are 6 references to important publications on the burning of soft coal.

New views of the combustion of the volatile matter in coal. 1918. S. H. Katz. U S Bur Mines Tech Pa 183. 15p.

Contains about 30 bibliographical footnotes on the chemistry of the volatilization of coal and the mechanism of the combustion of hydrocarbons.

Smokeless combustion. 1912. Eng Soc W Pa Pro v 27, p 462-4.

A partial bibliography from 1907 to 1911 containing 17 annotated references.

Surface combustion. 1921. A. E. Blake. Eng Soc W Pa Pro v 36, p 145-74.

Bibliography on p 169-74 has 71 references dating from 1907 to 1920.

Surface combustion. 1922. R. F. Bacon and W. A. Hamor. McGraw-Hill, N.Y. 2 v.

Bibliography in v 2 on p 1091-4. Has about 80 references arranged chronologically.

Concrete

See also Cement (building material)

Electrolysis in concrete. 1913. E. B. Rosa and others. U S Bur Stand Tech Pa 18. 137p.

On p 137 there are 22 references.

Reinforced concrete versus salt, brine and sea water. 1919. H. J. M. Creighton. Faraday Soc Trans v 14, p 155-63.

There are 6 references on p 162.

Condensation products

See also Bakelite, formaldehyde, plastics, etc.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 158-70 there are about 150 annotated U.S. and foreign patents on packing material, rubber and rubber compositions, rubber substitutes, cellulose, condensation products, and plastic compositions.

Conductivity, Electric

Conducibilità fotoelettrica dei liquidi cattivi conduttori. 1922. S. Timpanaro. Nuovo Cimento v 24, p 203-19.

On p 218-19 there are 34 references on photo-electric conductivity of liquids.

Electrical conductivity and ionization constants of the organic compounds; a bibliography of literature from 1889 to 1910 inclusive, including all important work before 1889 and corrected to the beginning of 1913. 1914. Heyward Scudder. London. 568p.

Gives numerical data.

Electrical conductivity of liquid sulphur dioxide solutions. 1911. Edward C. Franklin. J Phys Chem v 15, p 675-97.

About 25 bibliographical footnotes.

Electrical resistivity of dilute metallic solid solutions. 1921. A. L. Norbury. Faraday Soc Trans v 16, p 570-96.

On pages 595-6 there are 47 references on electrical resistivity data of alloys.

Conductivity, Electric—Continued

Recherches sur les propriétés électriques des alliages d'aluminium. 1911. Witold Broniewski, Paris.

On p 123-39 there is a bibliography of aluminium from 1822 to 1910 in three parts: 130 references on the electric resistance and its variation, 75 references on the thermo-electric properties, and 25 references on the electromotive force in solution.

Sur la conductivité électrique des alliages. 1911. W. Broniewski. Rev de Met mem v 8, p 320-34.

Bibliography on the electrical conductivity of alloys from 1827 to 1910 is on p 328-34. Reprinted in J Soc Chem Ind v 30, p 550-2.

Copper

Aluminum copper alloys. 1921. Robert J. Anderson. Am Electrochem Soc Trans v 40, p 405-34.

There is a bibliography of 62 references at the end of this paper. Also has 55 bibliographical footnotes.

Bibliography of patents covering unions of copper or its alloys with iron or steel by the aid of heat. 1913. J Ind & Eng Chem v 5, p 893-5.

Covers the period 1854 to date, and deals with metal coatings for steel, and copper clad iron and steel.

Bibliography on the physical properties of copper. 1918. P. D. Merica. Chem & Met Eng v 18, p 409-13.

Extends over the period 1844 to 1917. Has 289 references arranged topically.

Copper. 1922. U S Bur Stand Circ 73 ed 2. 108p.

Bibliography on p 102-8 has 303 references on the metallography, physical properties, working, equilibrium diagrams of binary alloys, corrosion and diseases of copper.

Electrodeposition of copper. 1913. C. W. Bennett. Am Electrochem Soc Trans v 23, p 233-50.

Has about 84 bibliographical footnotes.

Electrolytic corrosion of some metals. 1911. G. R. White. J Phys Chem v 15, p 723-92.

About 60 footnote references dealing with the electrolytic corrosion of zinc, copper, tin, lead, nickel and cadmium.

Influence of copper, manganese and chromium and some of their combinations on the corrosion of iron and steel. 1920. E. A. Richardson and L. T. Richardson. Am Electrochem Soc Trans v 38, p 221-33.

On p 233 there are 11 references.

Metallography of copper. Bibliography. 1916. William Campbell. International Eng Cong, San Francisco, Trans Met volume p 281-2.

There are 25 references on the metallography of copper, also 18 bibliographical footnotes.

Preliminary study of the alloys of chromium, copper and nickel. Historical review. 1916. D. F. McFarland and Oscar E. Harder. Ill U Eng Expt Sta Bul 93, p 52-7.

Has 22 footnotes giving the original sources of the information contained in the text.

Simple, rapid and economical method of separating nickel and copper from iron. 1923. E. G. R. Ardagh and G. M. Broughall. Canad Chem & Met v 17, p 198-200.

There are 22 references on p 200.

Copper—Metallurgy

Advances in copper smelting. Bibliography. 1916. Frederick Laist. Int Eng Cong, San Francisco, Trans Met volume p 111-14.

Has 56 references.

Anteckningar ur falu gruvas och falu kopparverks historia under det 19:de seklet. 1922. Abr. Jonson. Jernkontorets Annaler v 77, p 279-314.

On p 312-14 there are 25 references on the mining and metallurgy of copper in Sweden in the 19th century.

Copper bibliography. 1910. Mineral Ind v 19, p 224-7.

About 75 references including the geology, mining and metallurgy of copper.

Important factors in blast roasting. 1912. H. B. Pulsifer. Met & Chem Eng v 10, p 154.

About 60 references including 15 patents on blast roasting especially as applied to the smelting of lead and copper ores.

Improvements in design and construction of modern copper plants. 1916. Charles H. Repath. Int Eng Cong, San Francisco, Met volume p 150-1.

A list of 20 references.

Modern copper smelting. 1912. Donald M. Levy. Griffin, London. 259p.

References are given at the ends of most of the chapters, in all about 100 references.

Copper chloride

Spectrophotometric study of solutions of cupric chloride. 1922. Frederick H. Getman. J Phys Chem v 26, p 217-46.

Has 33 bibliographical footnotes.

Copper sulphate

References on the use of copper sulphate for reducing the pathogenicity of sewage effluents. 1905. George A. Johnson. New Eng Water Works Assoc J v 19, p 525.

Consists of 14 references.

Cork

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 150-2 there are about 30 annotated U.S. and foreign patents on plastics, adhesives, cork, linoleum and related compositions.

Verfahren zur herstellung künstlicher korkmassen. 1911. Max Schall. Kunststoffe v 1, p 141-3.

Gives abstracts from the patent literature on the preparation of artificial cork and similar materials.

Verfahren zur herstellung von kunstkorkmassen. 1913. Oscar Kausch. Kunststoffe v 3, p 328-9.

Gives 35 patents with brief notes on the preparation of artificial cork-like materials.

Corrosion

Aluminum and its light alloys. 1918. Paul D. Merica. *Chem & Met Eng* v 19, p 729-32, 780-5.

A bibliography of 510 references from 1890 to 1918, arranged by subject. Deals with metallurgy, metallography, chemical and physical properties, and corrosion of aluminum and its alloys.

Aluminum and its light alloys. 1919. U S Bur Stand Circ 76, p 109-20.

506 references on the chemical and physical properties, corrosion, welding, etc. of aluminum and aluminum alloys.

Bibliography of metal protection and corrosion. 1909. Pittsburgh Carnegie Library monthly bulletin v 14, p 375-433. Also *Rev de Met extr* v 11, p 267-90.

About 600 references on corrosion, electrolytic corrosion, corrosion by vapors, salt water, boiler corrosion, pipe and structure corrosion. Protection by cement, lacquers, galvanizing, paint, paper, magnetic oxides, etc.

Bibliography of metal corrosion and protection. 1915. *Eng Soc W Pa Pro* v 31, p 193-222.

A supplement to the bibliography of metal corrosion and protection published in the monthly bulletin of the Carnegie Library of Pittsburgh v 14, p 375-433, and covers the period from 1909 to 1915.

Bibliography of the corrosion of iron and steel in cinder concrete. 1912. Morton C. Tuttle. *Eng N* v 67, p 755-6.

A list of 31 annotated references on rustless coatings; corrosion of steel reinforcements, chemistry of protection of steel against rust and fire by concrete and blast furnace slag.

Bibliography of the corrosion of metals and its prevention. 1923. Nathan Van Patten. Marblehead, Mass.

Contains 2025 references with brief notes and subject index.

Copper. 1922. U S Bur Stand Circ 73 ed 2, 108p.

Bibliography on p 102-8 has 303 references on the metallography, physical properties, working, equilibrium diagrams of binary alloys, corrosion and diseases of copper.

Corrosion and preservation of iron and steel. 1910. A. S. Cushman and H. A. Gardner. McGraw-Hill, N.Y. 373p.

On p 301-63 there are 650 references on corrosion, theories, electrolytic corrosion, corrosion by salt water, vapors, in boilers, pipe and structural work. Metal protection by concrete, cement, lacquers, magnetic oxide, paint and paper. References have brief notes.

Corrosion of cast iron and its bearing upon the electrolytic theory of corrosion. 1917. E. A. Richardson and L. T. Richardson. *Am Electrochem Soc Trans* v 31, p 195-6.

A bibliography of 9 references.

Corrosion of common metals and methods of prevention. 1914. S. J. Zeigler, jr. *Am Soc Naval Eng J* v 26, p 854-63.

Bibliography is given on p 863.

Corrosion of fence wire. 1917. Oliver W. Storey. *Am Electrochem Soc Trans* v 32, p 284-311.

A list of 13 references is given on p 310-11.

Corrosion of iron and steel. 1910. Alfred Sang. McGraw-Hill, N.Y. 141p.

On p 103-5 there are 83 references mentioned in the text. On p 105-27 there is a

bibliography of corrosion abstracted from the bibliography in the monthly bulletin of the Carnegie Library of Pittsburgh v 14, p 375-433.

Corrosion of iron and steel. 1911. J. N. Friend. Longmans, Green, London. 289p.

Contains numerous footnotes throughout the book to the original sources of information. The theories and all phases of the corrosion of iron and steel are taken up.

Corrosion of pipe in refrigerating systems. 1913. F. N. Speller. *Iron Age* v 92, p 1330-1.

A list of 8 references dating from 1909 to 1912 on the comparative corrosion of wrought iron and steel is on p 1331.

Effect of electrolytes on cement, as reported by a number of investigators. 1918. J. C. Witt. *Philippine J Sci* v 13, p 30-4.

Has 60 annotated references.

Effects of electrolysis on engineering structures. 1915. A. F. Ganz. *Stevens Ind* v 32, p 316-47.

On p 343-5 there are 22 references on electrolytic corrosion.

Electrolytic corrosion in reinforced concrete. 1911. C. E. Magnusson and G. H. Smith. *Am Inst Elec Eng Trans* v 30, p 939-63.

Bibliography is given on page 963.

Electrolytic corrosion of some metals. 1911. G. R. White. *J Phys Chem* v 15, p 723-92.

About 60 footnote references dealing with the electrolytic corrosion of zinc, copper, tin, lead, nickel and cadmium.

Electrolytic methods for preventing corrosion. 1913. W. W. H. Gee. *Faraday Soc Trans* v 9, p 115-24.

Has 12 bibliographical footnotes.

Experimental study of the corrosion of iron under different conditions. 1900. Carl Hambuechen. *Wisconsin U Bul Eng Ser* v 2, p 229-75.

Bibliography on p 274-5 has 20 references dating from 1871 to 1899.

Handbook on piping. 1918. Carl L. Svenson. Van Nostrand, N.Y. 359p.

A list of books and references is given on p 347-50. There are 75 references on piping, flow of fluids, corrosion, etc.

Influence of copper, manganese and chromium and some of their combinations on the corrosion of iron and steel. 1920. E. A. Richardson and L. T. Richardson. *Am Electrochem Soc Trans* v 38, p 221-33.

There are 11 references on p 233.

Influence of enclosed slag on the corrosion of wrought iron. 1920. L. T. Richardson. *Am Electrochem Soc Trans* v 37, p 533-4.

Gives 12 references.

Marine steam boilers and boiler room equipment. Bibliography. 1915. Charles F. Bailey. *Int Eng Cong* 1915, pa 210, Naval arch volume p 392-5.

About 65 references from 1911 to 1915. Includes references on the corrosion of boiler tubes.

Corrosion—Continued

Metal products and devices in buildings.

1917. *Am Inst Arch J* v 5, p 571-5.

About 150 references on metals and metal products in general, corrosion of metals, protective coatings, pipes, wire, metal trim, chutes, fixtures, etc.

Metallic coatings for rust-proofing iron and steel. 1919. H. S. Rawdon and others. *Chem & Met Eng* v 20, p 591-2.

A bibliography covering the period from 1911 to 1918. Has 18 references on sherardizing, pickling, metal spraying, testing of coatings, etc.

Protective metallic coatings for rust-proofing iron and steel. 1919. *U S Bur Stand Circ* 80. 34p.

On p 32-4 there are 75 references on the nature of corrosion, microstructure, methods of coating and tests of the methods.

Recent progress in metallography. 1916. William Campbell. *Am Inst Metals Trans* v 10, p 269-331.

A very exhaustive bibliography on metallography classified as follows: metals, binary and ternary alloys, electrical and magnetic properties and corrosion.

Reinforced concrete versus salt, brine and sea water. 1919. H. J. M. Creighton. *Faraday Soc Trans* v 14, p 155-63.

On p 162 there are 6 references.

Season cracking of nonferrous metals. Bibliography. 1922. British Nonferrous Metals Assoc Bul no 6, p 14-18.

Has 47 references.

Structural iron and steel. 1917. *Am Inst Arch J* v 5, p 43-5.

About 40 references including corrosion and preservation of iron and steel.

Cotton

Bibliography of the cotton manufacture. 1909. C. J. H. Woodbury. *Boston Nat Assoc Cotton Mfrs Trans* no 86 (April) p 339-549.

Contains 5074 references, classified and grouped as follows: 1. cotton manufacture, carding, spinning, weaving, etc; 2. finishing, bleaching, dyeing, mercerizing, etc; 3. engineering and machinery; 4. history and economics; 5. agricultural side of cotton; 6. publications relating to textiles.

Bibliography of the cotton manufacture. 1910. C. J. H. Woodbury. *Boston Nat Assoc Cotton Mfrs Trans* no 88 (April) p 364-415.

Appendix to the preceding bibliography. Contains 1223 supplementary references classified in the same manner.

Chemistry of the cotton plant with special reference to upland cotton. 1918. Arno Viehoever. *J Agr Research* v 13, p 345-52.

Bibliography on p 351-2 has 10 references.

Investigations on the physical and chemical properties of cotton. 1916. William Harrison. *Nat Assoc of Cotton Mfrs Trans* v 101, p 200.

A list of 8 references discussing the relation of dyes and dyeing to the properties of cotton, the electrical theory of dyeing, and the action of light on dyed fabrics.

List of books relating to cotton and the cotton industry, in the library of the Franklin Institute. 1909. *J Fr Inst* v 167, p 315-19.

About 150 books arranged topically and chronologically from 1800 to 1900. Deals also

with dyeing, bleaching, spinning, weaving, etc. of cotton, as well as cotton machinery, milling, and manufacture.

Mercerisierverfahren. 1920. G. Wilhelm. *Kunststoffe* v 10, p 105-6, 115-18.

A list of 86 patents with brief notes on mercerizing.

Cottonseed oil

On the catalytic hydrogenation of cottonseed oil. 1921. Louis Kahlenberg and George J. Ritter. *J Phys Chem* v 25, p 89-114.

Has 38 bibliographical footnotes.

Cottrell, Frederick G.

Published articles and patents by F. G. Cottrell. 1919. *Chem & Met Eng* v 20, p 114.

A list of 23 articles and 13 patents.

Cracking process. See Petroleum**Cross, Charles Frederick**

Paper research literature; bibliography of the works of C. F. Cross. Clarence J. West. *Paper Tr J* v 73, (July 21) p 40-1.

Has about 75 annotated references.

Cryoscopy

Cryoscopy of milk. 1921. Julius Hortvet. *J Ind & Eng Chem* v 13, p 198-208.

Has 51 bibliographical footnotes.

Crystal analysis

New method of crystal analysis and the reflection of characteristic X rays.

George L. Clark and William Duane. *Optical Soc Am J* v 7, p 455-82.

There are 20 references on p 482.

Crystal structure

Survey of existing crystal data. 1923. R. W. G. Wyckoff. *J Fr Inst* v 195, p 531-52.

On p 549-52 there are 151 references to sources of material quoted in the text.

Crystallization

Coarse crystallization in cold pressed and cold drawn steel parts. Bibliography. 1916. Ralph H. Sherry. *Soc Auto Eng Bul* v 10, p 157.

Contains 7 references.

Crystallization of metals. 1922. N. T. Belaiew. *Univ London Press*, London. 143p.

Gives bibliographies at the ends of the various chapters.

Recrystallization. 1923. E. O. Courtman. *British Nonferrous Metals Research Assn Bul* 8, p 6-15.

On p 12-15 there are 73 references on recrystallization and the effect of cold working on metals.

Crystallography

Kristallberechnung und kristallzeichnung. 1914. B. Gossner. Engelmann, Leipzig.

On p vii there are 20 references on crystallography.

Cupferron

Bibliography on the use of cupferron as a quantitative reagent. 1919. S. A. Bralley. *J Ind & Eng Chem* v 11, p 1144-5.

A brief descriptive bibliography of 13 references dating from 1909 to 1917. References are given in the form of abstracts of recorded results.

Curie, Marie Sklodowska

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeléeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mine Curie, V. Meyer, Remsen, and Fischer.

Cyanide process

Bibliography. The cyanide process: articles on coarse and fine grinding, solution of gold and silver, and filtration. 1916. L. D. Mills. Int Eng Cong, San Francisco, Met volume p 355-60.

Has 130 references to books and articles on the cyanide process, coarse and fine grinding, tube milling, solution of gold and silver, filtration, settling and agitating.

Cyanide industry theoretically and practically considered. 1906. R. Robinc and M. Lenglen. Wiley, N.Y. 408p.

On p 331-401 there is a digest of U.S. patents relating to cyanide processes for the recovery of the precious metals. There are about 500 patents.

Precipitation from cyanide solutions. 1915. G. H. Clevenger. Am Electrochem Soc Trans v 28, p 263-302.

On p 301-2 there are 24 references with brief notes on the electrical precipitation of gold from cyanide solutions.

Stamp milling and cyaniding. 1915. Francis A. Thomson. McGraw-Hill, N.Y. 285p.

Contains rather extensive bibliographies at the end of nearly all the chapters, dealing with all phases of the treatment of gold and silver ores. Amalgamation, stamp mill and accessories, stamp mill amalgamation, variations in practice, mills and grinders, history and chemistry of cyaniding, cyaniding of ores, precipitation and recovery of gold and silver, treatment of gold ores, treatment of silver ores, costs, etc.

Textbook of cyanide practice. 1912. H. W. MacFarren. McGraw-Hill, N.Y. 291p.

Classified bibliography on p 215-68 of more than 1000 references, including every phase of cyanide practice, both U.S. and foreign.

Cyanogen

Recent advances in the chemistry of the cyanogen compounds: bibliography and references. 1916. J. E. Clennell. Am Inst Min Eng Trans v 54, p 504-5.

Has 35 references mainly patents dating from 1891 to 1915.

D**Dental compositions**

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cements, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Diamond

Diamond and moissanite, natural, meteoric and artificial. 1907. George F. Kunz. Am Electrochem Soc Trans v 12, p 39-63.

Has 52 bibliographical footnotes.

Diatomaceous earth

Diatomaceous earth. 1920. Norris Goodwin. Chem & Met Eng v 23, p 1158-60.

On p 1159-60, there are about 150 references on occurrence, tests of diatomaceous earth, patents on its use as filtering agent, building material, in paints, cements and polishing compounds.

Didymium

Index to the literature of didymium. 1842 to 1893. 1894. A. C. Langmuir. Smithsonian misc col. 20p.

Dielectrics

Die dielektrische festigkeit von flüssigkeiten und festen körpern. 1922. A. Günther-Schulze. Jahrb der Radioaktivität v 19, p 92-112.

On p 111-12 there is a bibliography of 24 references dating from 1878 to 1914 on the dielectric strength of liquids and solids.

Relation between electrolytic conduction, specific inductive capacity and chemical activity of certain liquids. 1905. Joseph H. Mathews. J Phys Chem v 9, p 641-81.

On p 667-81 there are about 250 references arranged by author on dielectric constants.

Difusion

See also Colloids

Diffusionsvorgänge in gelatine. 1922. Carl A. Schleussner. Kolloid Zeit v 31, p 347-52.

On p 348-9 there are 53 references on diffusion phenomena.

Fluidity and plasticity. 1922. E. C. Bingham. McGraw-Hill, N.Y. 435p.

Bibliography on p 347-429 of more than 1500 references, with author index, on internal friction, diffusion, viscosity, fluidity, colloidal solutions and lubrication.

Disinfectants

References on the recent work in the standardization of disinfectants. 1913.

John M. Weiss. J Fr Inst v 175, p 625.

Bibliography of 22 references.

Dissociation

Investigations upon abnormal electrolytic dissociation. 1917. A. N. Sakhanow. J Phys Chem v 21, p 169-89.

A list of 22 references is given on p 189.

Distillation

See also Alcohol, coal distillation, petroleum

Elements of fractional distillation. 1922. Clark S. Robinson. McGraw-Hill, N.Y. 205p.

Bibliography on p 198-200 has 62 references dating from 1906 to 1920 inclusive.

La tension de vapeur des mélanges de liquides: l'azéotropisme. 1918. Maurice Lecat. Lamartin, Brussels.

Bibliography on p 217-66 has more than 700 references arranged by author as well as chronologically from 1813 to 1917. Deals with vapor pressure and boiling points of mixtures of liquids, fractional distillation, phase rule. A very exhaustive bibliography referring to American, English, French, German, etc. literature.

Drying

See also Air drying

Drying machinery and practice; a handbook on the theory and practice of drying and desiccating, with classified description of installations, machinery, etc. 1910. T. G. Marlow. New York. 326p.

Bibliography of drying and desiccating on p 279-88. Approximately 150 references.

Duralumin

See also Aluminum alloys

Duralumin, a digest of information. 1922. Horace C. Knerr. Am Soc Steel Treat Trans v 3, p 13-42.

On p 41-2 there is a bibliography of 28 references on aluminum alloys, especially duralumin.

Dust

See also Dust removal

Baghouse and its recent applications. 1909. W. C. Ebaugh. J Ind & Eng Chem v 1, p 686-9.

Has 20 bibliographical footnotes on filters for fumes and dusts.

Collection and examination of explosive dusts in air. 1923. L. J. Trostel and H. W. Frevert. Ind & Eng Chem v 15, p 232-6.

On p 236 there are 12 references on dusts.

Dust explosions

Coal dust explosion tests in the experimental mine, 1913 to 1918 inclusive. 1922. George S. Rice. U S Bur Mines Bul 167. 639p.

On p 591-625 are selected bibliographies on the explosibility of a number of different dusts.

Dust explosions, theory and nature of phenomena, causes and methods of prevention. 1922. David J. Price and H. H. Brown. National Fire Protection Assoc, Boston. 246p.

Bibliography of about 150 references on p 241-6.

Explosibility of coal dust. 1910. G. S. Rice. U S Geol Sur Bul 425. 186p.

On p 168-82 there are 300 references from 1800 to 1909 on the coal dust problem.

Explosibility of coal dust. 1911. G. S. Rice. U S Bur Mines Bul 20. 204p.

On p 184-99 there is a selected bibliography on coal dust explosions, from 1800 to 1910, arranged chronologically in groups of 5 and 10 years. Brief notes are given.

Grain dust explosions. 1918. W. Dedrick and others. U S Dept Agr Bul 681. 54p.

On p 53-4 there are 39 references on explosions of grain and other dusts.

Dust removal

Bibliography of electrical precipitation. 1916. F. G. Cottrell. Eng & Min J v 101, p 392.

Has 21 references dating from 1824 to 1915.

Chloride volatilization process of ore treatment. 1923. Thomas Varley and others. U S Bur Mines Bul 211. 99p.

On p 93-5 there are about 50 patents on chloridization and volatilization of metals and the removal of particles from gases.

Electrostatic precipitation. Selected bibliography. 1918. O. H. Escholz. Am Inst Min Eng Bul 140, p 1305-6.

Has 25 references from 1913 to 1918.

Practical applications of electric precipitation and progress of the Research Corporation. 1915. Linn Bradley. Am Inst Elec Eng Pro v 34, p 523-65.

There are about 30 references on p 564-5.

Recovery of potash from iron blast furnaces and the cement kilns by electrical precipitation. Bibliography. 1918. Linn Bradley. J Ind & Eng Chem v 10 p 837-8.

A brief bibliography of 38 references from 1916 to 1918.

Dyes and dyeing

Acridine dyestuffs. 1919. G. Heyl. Color Tr J v 5, p 79-85.

Bibliographical references are given throughout the text. There are also about 30 German patents with abstracts given on p 81-2.

Anwendung der seltenen erden in der färberei und zeugdruckerei. 1920. F. Wedorf. Edel Erden & Erze v 1, p 73-5, 88-9.

Abstracts of patents on the use of rare earths in dyeing and fabric printing.

Application of dyestuffs to textiles, paper, leather and other materials. 1920. J. M. Matthews. Wiley, N.Y. 768p.

Bibliography on p 733-50 has 500 references.

Artificial dyestuffs used in the United States. 1916. Dept Commerce, special agent series no 121. 254p.

Bibliography on p 34-7 has 150 references and dates from 1879 to 1916.

Bibliography of the cotton manufacture. 1909. C. J. H. Woodbury. Boston Nat Assoc Cotton Mfrs Trans no 86 (April) p 339-549.

Contains 5074 references, classified and grouped as follows: 1. cotton manufacture, carding, spinning, weaving, etc; 2. finishing, bleaching, dyeing, mercerizing, etc; 3. engineering and machinery; 4. history and economics; 5. agricultural side of cotton; 6. publications relating to textiles.

Bibliography of the cotton manufacture. 1910. C. J. H. Woodbury. Boston Nat Assoc Cotton Mfrs Trans no 88 (April) p 364-415.

Appendix to the preceding bibliography. Contains 1223 supplementary references classified in the same manner.

Bleaching and related processes. 1921. J. M. Matthews. Chem Cat Co, N.Y. 676p.

Bibliography on p 659-61 contains 110 references on bleaching and dyeing as far back as 1792.

Bleaching, dyeing, printing and finishing. 1917. S. H. Higgins. Soc Chem Ind annual repts appl chem v 2, p 159-74.

Has 114 bibliographical footnotes covering 1917. Abstracts are given in the text.

Bleaching, dyeing, printing, and finishing. 1918. S. H. Higgins. Soc Chem Ind annual repts appl chem v 3, p 47-161.

Has 81 bibliographical footnotes covering 1918. Abstracts are given in the text.

Bleaching, dyeing, printing, and finishing. 1919. S. H. Higgins. Soc Chem Ind annual repts appl chem v 4, p 137-48.

Has 91 bibliographical footnotes covering 1919. Abstracts are given in the text.

- Bleaching, dyeing, printing, and finishing. 1920. Benjamin Leech. Soc Chem Ind annual repts appl chem v 5, p 150-61.
Has 57 footnote references to literature for 1920.
- Bleaching, dyeing, printing, and finishing. 1921. W. Harrison. Soc Chem Ind annual repts appl chem v 6, p 154-65.
Has 64 bibliographical footnotes covering 1921. Abstracts are given in the text.
- Chemische technologie der gespinnstfasern. 1913. Karl Stirn. Borntraeger, Berlin. 410p.
On p 379-83 there are about 80 references on textile fibres and dyeing of fibres. On p 384-90 there are about 250 patents on the same subject.
- Chemistry of intermediates. 1922. M. L. Crossley. J Ind & Eng Chem v 14, p 802-5.
Has 76 references mostly to patents on dye intermediates.
- Colors developed by cobalt oxide dyes. 1921. H. J. Witteveen and E. F. Farman. J Ind & Eng Chem v 13, p 1061-6.
On p 1065-6 there are 47 references.
- Colouring matters and dyes. 1916. Gilbert T. Morgan. Soc Chem Ind annual repts appl chem v 1, p 67-107.
Has 110 references with abstracts covering the year 1916.
- Colouring matters and dyes. 1917. Gilbert T. Morgan. Soc Chem Ind annual repts appl chem v 2, p 84-125.
Has 124 footnotes references covering the year 1917. Abstracts are given in the text.
- Colouring matters and dyes. 1918. G. T. Morgan. Soc Chem Ind annual repts appl chem v 3, p 86-114.
Has 69 footnote references covering the year 1918. The text has abstracts of these references.
- Colouring matters and dyes. 1919. Frederick M. Rowe. Soc Chem Ind annual repts appl chem v 4, p 84-113.
Has 127 bibliographical footnotes for the year 1919. Abstracts are given in the text.
- Colouring matters and dyes. 1920. Frederick M. Rowe. Soc Chem Ind annual repts appl chem v 5, p 91-124.
Has 161 bibliographical footnotes for the year 1920. Abstracts are given in the text.
- Colouring matters and dyes. 1921. F. W. Atack. Soc Chem Ind annual repts appl chem v 6, p 79-111.
Has 224 bibliographical footnotes for the year 1921. Abstracts are given in the text.
- Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. Edel Erden und Erze v 1, p 165-7, 175-8.
Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver and platinum in dyes and paints.
- Dyeing of pulp and paper. Bibliography. 1921. C. J. West. Paper Tr J v 72, May 12, p 46-4.
Contains about 180 references with annotations.
- Dyes derived from beta-oxynaphthoic acid and from J-acid with references to the Chemical Foundation patents. 1921.
- A. Willard Joyce. J Ind & Eng Chem v 13, p 946-8.
25 U.S. patents are given in the footnotes.
- Dyestuffs containing the pyridine ring. 1918. W. H. Harrison. Color Tr J v 2, p 229-33.
Bibliographical references are given throughout the text.
- Electrical theory of dyeing. 1910. W. W. H. Gee and W. Harrison. Faraday Soc Trans v 6, p 42-62.
Has 29 bibliographical footnotes.
- Enzyklopädie der küpenfarbstoffe; ihre literatur, darstellungswesen, zusammensetzung, eigenschaften in substanz und auf der faser. 1920. Hans Truttwin. Springer, Berlin. 868p.
On p 2-62 there is a bibliography of indigo from 1833 to 1919. More than 1500 references. Also on p 114-15, 409-10 and throughout the book there are bibliographical references. On p 553-791 is an exhaustive list of German and other patents with notes on vat dyes.
- Flame arc in dye testing. 1915. William R. Mott. Am Electrochem Soc Trans v 28, p 371-96.
On p 388-96 is a list of the more important references with abstracts on this subject.
- General review and bibliography of dyeing. 1919. P. E. King. Color Tr J v 5, p 164-9; v 6, p 18-23.
A brief article reviewing the theory of dyeing and giving references to the literature throughout the article. Discusses chemical theory, mechanical theory, colloid diffusion and adsorption theory and electrical theory.
- Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.
On p 549-51 there is a list of books dating from 1879 to 1921 on coal tar dyes. On p 584-5 there is a list of books dating from 1877 to 1918 on natural dyes and on p 638-9 there is a list of books dating from 1876 to 1921 on bleaching, dyeing and textile printing.
- Investigations on the physical and chemical properties of cotton. 1916. William Harrison. Nat Assoc of Cotton Mfrs Trans v 101, p 200.
A list of 8 references discussing the relation of dyes and dyeing to the properties of cotton, the electrical theory of dyeing, and the action of light on dyed fabrics.
- Lehrbuch der chemischen technologie der gespinnfasern. 1913. G. C. T. von Georgievics. Deuticke, Leipzig.
In v 1, on p 525-53 there are numerous references to dyestuffs, etc.
- L'industrie des matières colorantes organiques. 1912. André Wahl. Doin, Paris. 397p.
List of works consulted is given on p 377-8, and a bibliography on p 381-7 on organic coloring materials.
- List of books relating to cotton and the cotton industry, in the library of the Franklin Institute. 1909. J Fr Inst v 167, p 315-19.
About 150 books arranged topically and chronologically from 1800 to 1900. Deals also with dyeing, bleaching, spinning, weaving, etc. of cotton, as well as cotton machinery, milling, and manufacture.

Dyes and dyeing—Continued

List of references on dyestuffs; chemistry, manufacture and trade. H. H. B. Meyer. Library of Congress, Washington, D.C. 186p. 15c.

Has 1650 references with subject and author index. Some additional bibliographies are listed on p 5 and 6.

List of U S patents for 1920 relating to the manufacture and application of dyestuffs 1921. Color Tr J v 8, p 92-3.

Has about 100 references.

Nature of the action of dyeing. 1910. W. P. Dreaper. Faraday Soc Trans v 6, p 31-41.

Has 20 bibliographical footnotes.

Non-aromatic intermediates in dyestuff manufacture. 1920. J. T. Hewitt. Color Tr J v 6, p 79-82.

Bibliographical footnotes are given throughout the text.

Textbook of dye chemistry. 1920. G. von Georgievics and Eng. Grandmougin. Scott, Greenwood, London. 560p.

About 150 references are given on p 545-8, dating from 1879 to 1920.

Ueber die absorption organischer farbstoffe durch kolloid veranlagte bodenarten, tonc, usw. 1916. Wilhelm Graf. Kolloid Zeit v 19, p 165-72.

There are 14 references on p 172 on absorption of organic dyes.

E**Eggs**

Preservation of eggs. 1920. Hilton I. Jones and Robert DuBois. J Ind & Eng Chem v 12, p 751-7.

On p 754-7 there is a list of references on the sterilization and preservation of eggs.

Electric arc

Flame arc in dye testing. 1915. Wilham R. Mott. Am Electrochem Soc Trans v 28, p 371-96.

On p 388-96 is a list of the more important references with abstracts on this subject.

On the temperature of the arc. 1905. C. W. Waidner and G. K. Burgess. U S Bur Stand Bul v 1, p 109-24.

Contains 24 bibliographical footnotes.

Electric cells. See Standard cells**Electric furnaces**

See also Electrochemistry, electrometallurgy

Bibliographie über die darstellung des roheisens im elektrischen ofen. 1921. H. Dickman. Stahleisen, Düsseldorf.

Contains 191 references arranged chronologically from 1899 to 1920.

Bibliography of electric furnaces. 1904. Electrochemist and Metallurgist v 4, pt 2, no 27, p 91-100.

Has 300 references to electric furnaces, electrochemistry, electrometallurgy and allied topics.

Bibliography of electric furnaces for brass melting. 1918. H. W. Gillett and A. E. Rhoads. Chem & Met Eng v 19, p 82.

Has 16 references.

Electric furnace. 1904. Henri Moissan; tr. by Victor Lenher. Chem Pub Co, Easton, Pa. 305p.

On p 303-5 there is a list of about 100 articles dealing with electric furnaces, electrodes, etc. from 1892 to 1899 that appeared in Comptes Rendus and Annales de Chimie et Physique.

Electric furnace. 1912. Eng Soc W Pa Pro v 28, p 114-16.

A list of 27 references with notes from 1907 to 1911.

Electric furnace. 1921. John Norman Pring. Longmans, Green, London. 485p.

Bibliography on p 457-82 has 450 references and deals with: electrodes, ferroalloys, iron, laboratory furnaces, nitrogen fixation, ammonia oxidation, non-ferrous metals, refractories and abrasives. There are also many bibliographical footnotes throughout the text.

Electric furnace as applied to metallurgy; a reading list, 1900 to 1919. 1920. C. J. West. Am Electrochem Soc Trans v 37, p 365-456.

A list of about 1200 magazine articles on the construction and operation of the electric furnace as applied to the metallurgy of iron, steel, and non-ferrous metals.

Electric furnace in the iron industry: a bibliography. 1922. Lyman C. Judson and H. P. Martin. Am Electrochem Soc Trans preprint April 27, 1922.

A list of 46 references with descriptive notes from 1913 to 1922. Includes material on the production of iron for foundry use.

Electric furnace: its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Electric furnace, its origin, transformations and applications. 1906. Faraday Soc Trans v 2, p 25-8.

About 120 references on the electrometallurgy of aluminum and its alloys.

Electric furnaces for making iron and steel. 1914. D. A. Lyon and R. L. Keeney. U S Bur Mines Bul 67. 142p.

Bibliography of 58 references on p 134-6.

Electric furnaces for non-ferrous alloys. 1921. H. W. Gillett. Am Electrochem Soc Preprint 24, April 21, 1921, p 277-95.

A table of electric furnaces, giving number of furnaces, alloys used, furnace capacity, rating, etc., is given on p 278-85.

Electrothermal methods of iron and steel production. 1913. John B. C. Kershaw. Constable, London. 239p.

On p 188-223 there is a list of electric furnaces for iron and steel production in operation or under construction in 1912, and a list of English and foreign patents relating to electric furnaces granted from 1898 to 1911, and abstracts and reprints of early patents relating to electric furnaces.

Geschichte des elektroisens mit besonderer berücksichtigung der zu seiner erzeugung bestimmten elektrischen öfen. 1914. Oswald Meyer. Springer, Berlin. 183p.

On p 183 there is a list of 30 references dealing with the electric furnace and the steel industry.

I processi termoelettrici della siderurgia moderna; forni elettrici. 1914. C. F. Bonini. Hoepli, Milan. 607p.

On p 593-4 there are 20 references to textbooks dealing with the electric furnace and metallurgy of iron.

L'application des fours électriques à la fusion des métaux et alliages nonferreux. 1922. A. Billaz. Vie Tech & Ind v 4, p 91-101.

On p 101 there are 9 references on electric brass furnaces.

Le four électrique. 1897. Henri Moissan. Steinheil, Paris. 385p.

On p 374-6 there are about 80 references to publications by Moissan on electric furnaces. Covers the period from 1892 to 1896.

Le four électrique au laboratoire et dans l'industrie. 1907. Adolphe Minet. Rev d'Electrochimie v 1, p 13-17, 50-5.

There is a list of uses of electric furnaces on p 15, and a bibliography on electric furnaces and products on p 16-17, 50-5.

References to papers dealing with laboratory forms of electric furnaces. 1917. Faraday Soc Trans v 12, p 213-16.

About 80 references on laboratory furnaces, refractories, and the manufacture of products in the electric furnace.

Refractory materials; a general discussion held by the Faraday Society. Faraday Soc Trans v 12, May, 1917.

Bibliography of books and articles relating to refractories from 1862 to 1916 on p 14-24. About 75 references. Bibliography of references dealing with electric furnaces and refractories on p 129-32. About 75 references.

Bibliography of about 70 references on refractories used in the iron and steel industries on p 163-5.

Electric welding. See Welding

Electrochemistry

See also Electrolysis, electrolytes, etc.

Bibliography of electric furnaces. 1904. Electrochemist and Metallurgist v 4, pt 2, no 27, p 91-100.

Has 300 references to electric furnaces, electrochemistry, electrometallurgy and allied topics.

Bibliography of electrochemistry and allied subjects. 1908. P. F. Mottely. Am Electrochem Soc Trans v 13, p 453-79.

Has about 500 references.

Effective potential difference of electro-osmosis and allied phenomena. 1921. H. Freundlich. Faraday Soc Trans v 16, pt 3, p 146-9.

There are 17 references on p 149.

Electric endosmosis and cataphoresis. 1921. Alfred W. Porter. Faraday Soc Trans v 16, pt 3, p 135-40.

There are 7 references on p 140.

Electric furnace; its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and also electric furnaces.

Electrochemical and allied industries. 1920. D. F. Campbell and C. C. Gow.

Soc Chem Ind annual repts appl chem v 5, p 271-90.

Has 20 footnote references for the year 1920. Abstracts are contained in the text.

Electrochemical and electrometallurgical industries. 1921. J. N. Pring. Soc Chem Ind annual repts appl chem v 6, p 295-316.

Has 81 footnote references for the year 1921. The text abstracts these references.

Electrochemistry. 1917. Arthur Hale. Soc Chem Ind annual repts appl chem v 2, p 276-304.

Has 244 footnote references for the year 1917. Text has abstracts of these references.

Electrochemistry. 1918. A. J. Hale. Soc Chem Ind annual repts appl chem v 3, p 238-60.

Has 138 footnote references for the year 1918. Text contains abstracts of these references.

Electrochemistry. 1919. A. J. Allmand. Soc Chem Ind annual repts appl chem v 4, p 249-80.

Has 216 footnote references to all phases of applied electrochemistry. Text contains abstracts of these references.

Grundzüge der angewandten elektrochemie. 1922. Georg Grube. Steinkoff, Dresden. 286p.

On p 252-60 there are 471 references on applied electrochemistry.

Industrial electrometallurgy, including electrolytic and electrothermal processes. 1918. Eric K. Rideal. Bailliere, London. 247p.

There are about 300 references distributed at the ends of the various sections dealing with electrolysis in aqueous solutions and in fused electrolytes; electrolytic preparation of rare metals; electrothermal processes; carborundum, carbides, electrothermal nitrogen fixation, iron and ferro-alloys.

Notes on electrochemistry. 1906. F. G. Wiechmann. McGraw-Hill, N.Y. 145p.

Has numerous bibliographical footnotes.

Progress in inorganic electrochemistry. 1922. W. G. Horsch. J Ind & Eng Chem v 14, p 908-9.

Has 64 footnote references on recent general progress in the various fields of inorganic electrochemistry.

Propriétés électrochimiques des solutions dans les solvants autres que l'eau. 1922. Annales de l'Energie v 2, p 142-7.

On page 147 there are about 100 references subsequent to 1907 on ionization, solution, conduction, molecular weights, electrolysis, electromotive force, transport numbers, reactions and catalysis, of non-aqueous solutions.

Recherches sur les propriétés électriques des alliages d'aluminium. 1911. Witold Broniewski, Paris.

On p 123-39 there is a bibliography of aluminum from 1822 to 1910 in three parts: 130 references on the electric resistance and its variation, 75 references on the thermoelectric properties, and 25 references on the electromotive force in solution.

References to papers dealing with laboratory forms of electric furnaces. 1917. Faraday Soc Trans v 12, p 213-16.

About 80 references on laboratory furnaces, refractories for electric furnaces, and the manufacture of products in the electric furnace.

Electrodeposition

See also Electrolysis

Electrodeposition of cadmium. 1914. F. C. Mathers and H. M. Marble. *Am Electrochem Soc Trans* v 25, p 296-331.
Has 86 bibliographical footnotes.

Electrodeposition of cobalt and nickel. 1913. Oliver P. Watts. *Am Electrochem Soc Trans* v 23, p 99-152.

On p 150-2 there is a list of 100 papers that are referred to in the text.

Electrodeposition of copper. 1913. C. W. Bennett. *Am Electrochem Soc Trans* v 23, p 233-50.

Has about 84 bibliographical footnotes.

Electrodeposition of gold and silver. 1913. Francis C. Frary. *Am Electrochem Soc Trans* v 23, p 25-97.

Has about 400 bibliographical footnotes.

Electrodeposition of lead. 1913. Frank C. Mathers. *Am Electrochem Soc Trans* v 23, p 153-92.

Consists of abstracts and patents on the literature of the electrolysis of lead.

Electrodeposition of metals. 1913. W. Lash Miller. *Am Electrochem Soc Trans* v 23, p 17-23.

Has 37 bibliographical footnotes.

Electrodeposition of nickel. 1916. L. D. Hammond. *Am Electrochem Soc Trans* v 30, p 103-30.

Has 52 bibliographical footnotes.

Electrodeposition of tin. 1913. Edward F. Kern. *Am Electrochem Soc Trans* v 23, p 193-232.

A "review of data from all available literature."

Electrodeposition of zinc from aqueous solutions. 1917. E. P. Mathewson. *Can Min Inst Trans* v 20, p 135-60. *Also* *Can Min Inst Bul* v 59, p 239-60.

A bibliography of 250 references with notes and abstracts. 1880-1916.

Electrolytic behavior of tungsten. 1917. Walter E. Koerner. *Am Electrochem Soc Trans* v 31, p 221-47.

There are 43 references on the electrolysis of tungsten on p 246-7.

Hydrogen overvoltage and current density in the electrodeposition of zinc. 1922. V. C. Tainton. *Am Electrochem Soc Trans*, advance paper, April 27, 1922.

There are 20 references at the end of the paper.

On the electrodeposition of iron. 1922. W. E. Hughes. Great Britain dept of science and industrial research, bul 6. 50p.

On p 44-50 there is a bibliography of 120 references on electrodeposition and related phenomena, and the properties of electrolytic iron.

Study of the throwing power and current efficiency of zinc plating solutions. 1922. W. G. Horsch and F. Tyler. *Am Electrochem Soc Trans* advance paper April 27, 1922.

There is a bibliography of 35 references at the end of the paper.

Use of colloids in the electrodeposition of metals. 1921. W. E. Hughes. *Faraday Soc Trans* v 16, pt 3, p 130-1.

There are 8 references on p 131.

Electrolysis

See also Electrodeposition, electrolytes

Behavior of iron and nickel anodes in various electrolytes. 1910. E. P. Schoch and C. P. Randolph. *J Phys Chem* v 14, p 719-37.

There are 14 references on p 737.

Bibliography of electrochemical chlorate and perchlorate formation. 1921. *Faraday Soc Trans* v 16, p 432-3.

Has 39 references on electrolytic hypochlorites and the electrolysis of alkali chlorides.

Determination of hydrogen ions: an elementary treatise on the hydrogen electrode, indicator and supplementary methods with an indexed bibliography on applications. 1920. W. Mansfield Clark. Williams, Baltimore. 317p.

On p 239-302 there is a very extensive bibliography of more than 1200 references, arranged by author. These same references are classified at the end of the various chapters. The references to the applications are on pages 219-238.

Einführung in die technische elektrochemie. 1910. Paul Askenas. Vieweg, Braunschweig. 2 v.

In v 2, p 2 there are 21 references on electrolysis.

Electrodeposition of cobalt and nickel. 1913. Oliver P. Watts. *Am Electrochem Soc Trans* v 23, p 99-152.

On p 150-2 there is a list of 100 papers quoted in the text.

Electrodeposition of zinc from aqueous solutions. 1917. E. P. Mathewson. *Can Min Inst Trans* v 20, p 135-60.

On p 137-57 there are about 250 references from 1880 to 1916 on the electrolysis of zinc and zinc electrometallurgy. These references have brief notes.

Electrolysis in concrete. 1913. E. B. Rosa and others. *U S Bur Stand Tech Pa* 18. 137p.

On p 137 there are 22 references.

Electrolytic reduction of nitrobenzene. 1911. Ralph C. Snowdon. *J Phys Chem* v 15, p 797-844.

Has 125 bibliographical footnotes.

Électrometallurgie du zinc. 1922. Gojon and Lemarchands. *Chimie & Ind* v 8, p 186T-203T.

On p 203T there are 18 references on the electro and electrolytic reduction of zinc.

Factors influencing the electrolysis of organic compounds. 1921. Raymond Freas. *Am Electrochem Soc preprint* no 5, October 1, 1921, p 87-98.

On p 98 there is a bibliography of 21 references.

Lead refining by electrolysis. 1908. A. G. Betts. Wiley, N.Y. 394p.

Bibliography of about 30 references mostly patents, on p 309-11.

Manufacture of chemicals by electrolysis. Alkali chlorides. 1923. A. Clarke. *Beama* v 12, p 348-55.

On p 355 there are 53 references to about 100 patents and articles.

On the electrodeposition of iron. 1922. W. E. Hughes. Great Britain dept of science and industrial research, bul 6. 50p.

On p 44-50 there is a bibliography of 120 references on electrodeposition and related phenomena, and the properties of electrolytic iron.

Overtoltage. 1916. C. W. Bennett and J. G. Thompson. Am Electrochem Soc Trans v 29, p 269-93.

Has more than 50 bibliographical footnotes.

Potential of the oxygen electrode. 1910. E. P. Schoch. J Phys Chem v 14, p 665-77.

On p 677 there are 17 references.

Preparation of pure iron and iron-carbon alloys. 1916. J. R. Cain and others. U S Bur Stand Sci Pa 266.

On p 26 there are 21 references on the preparation of electrolytic iron. Also contains numerous bibliographical footnotes.

Use of colloids in the electrodeposition of metals. 1921. W. E. Hughes. Faraday Soc Trans v 16, pt 3, p 130-1.

There are 8 references on p 131.

Electrolytes

See also Electrochemistry, electro-osmose, electrolysis

Function of addition agents in electrolytes. 1909. Edward F. Kern. Am Electrochem Soc Trans v 15, p 441-74.

Has 26 bibliographical footnotes.

Electrometallurgy

See also Electrochemistry, *also* under name of metals as: Brass, copper

Bibliography of electric furnaces. 1904. Electrochemist and Metallurgist v 4, pt 2, no 27, p 91-100.

Has 300 references to electric furnaces, electrochemistry, electrometallurgy and allied topics.

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg, Braunschweig. 2 v.

On p 309-11 there are 68 references on the technical reduction of alumina.

Electric furnace as applied to metallurgy; a reading list, 1900-1919. C. J. West. Am Electrochem Soc Trans v 37, p 365-456.

A list of about 1200 magazine articles on the construction and operation of the electric furnace as applied to the metallurgy of iron, steel and non-ferrous metals.

Electric furnace; its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and also electric furnaces.

Electric furnace, its origin, transformations and applications. 1906. Faraday Soc Trans v 2, p 25-8.

About 120 references on the electrometallurgy of aluminum and its alloys.

Electrochemical and electrometallurgical industries. 1921. J. N. Pring. Soc Chem

Ind annual repts appl chem v 6, p 295-316.

Has 81 footnote references for the year 1921. The text abstracts these references.

Electrometallurgie du zinc. 1922. Gojon and Lemarchands. Chimie & Ind v 8, p 186T-203T.

On p 203T there are 18 references on the electro and electrolytic reduction of zinc.

Electrometallurgy. Bibliography. E. F. Roeber. Int Eng Cong, San Francisco, Met volume p 476-8.

A list of 30 references with descriptive notes.

Industrial electrometallurgy, including electrolytic and electrothermal processes. 1918. Eric K. Rideal. Baillière, London. 247p.

There are about 300 references distributed at the ends of the various sections dealing with electrolysis in aqueous solutions and in fused electrolytes; electrolytic preparation of rare metals; electrothermal processes; carborundum, carbides, electrothermal nitrogen fixation, iron and ferro-alloys.

Electron theory

Electron theory of magnetism. 1912. E. H. Williams. Ill U Eng Expt Sta Bul 62. 64p.

Contains 21 references without notes, arranged by author, on the theory of magnetism and the magnetization of minerals.

Electrons

List of books on the electron. 1922. H. W. Craver. Am Inst Elec Eng J v 41, p 10 (supplement for Jan.).

25 books are listed.

Electro-osmose

Effective potential difference of electro-osmosis and allied phenomena. 1921. H. Freundlich. Faraday Soc Trans v 16, pt 3, p 146-9.

There are 17 references on p 149.

Electric endosmosis and cataphoresis. 1921. Alfred W. Porter. Faraday Soc Trans v 16, pt 3, p 135-40.

There are 7 references on p 140.

L'électro-osmose. 1922. Paul Bary. Chimie & Ind v 7, p 640-50.

On p 650 there are 58 references.

Physical properties of colloidal solutions. 1921. E. F. Burton. Longmans, Green, London. 221p.

On p 153-4 there are 38 references on the action of particles in an electric field.

Emery

See also Abrasives

Emery and the emery industry. 1912. A. Haenig. Scott, Greenwood, London. 103p.

A list of 14 references is given on p 100.

Emulsions

See also Colloids

Emulsions and emulsification. 1921. Faraday Soc Trans v 16, pt 3, p 17-21.

On p 18-21 there is a list of about 80 references on emulsions.

Review of the literature of emulsions. 1920. Arthur W. Thomas. J Ind & Eng Chem v 12, p 177-81.

A review of the literature and gives 42 bibliographical footnotes.

Emulsions—Continued

Theory of emulsions and emulsification. 1923. William Clayton. Churchill, London. 160p.

On p 145-57 there are about 200 references from 1865 to 1922. There are also many bibliographical footnotes.

Enamel

Reading list of vitreous enameling on iron and steel. 1921. Clarence J. West. Am Ceramic Soc J v 4, p 47-64.

Covers the period from 1907 to 1920. There are about 350 references with descriptive annotations.

Silica and the silicates. 1921. James A. Audley. Baillière, London. 374p.

Bibliographies are at the ends of the various sections. Glass and enamels, p 334.

United States patents relating to enamels with special reference to enamels for iron and steel. 1920. C. J. West. Am Ceramic Soc J v 3, p 893-9.

More than 100 references covering the period from 1900 through 1920.

Enzymes

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases and their applications.

Chemistry of the enzymes. 1921. K. George Falk. Chem Cat Co, N.Y. 136p.

Has numerous bibliographical footnotes throughout the text.

Enzymes and their applications. 1901. Jean Effront; tr. by S. C. Prescott. Wiley, N.Y. 322p.

There are bibliographies at the ends of the chapters. Deals with enzymes, fermentation, brewing, diastase, zymase, oxidases, etc.

Introduction to the chemistry of plant products. 1917. Paul Haas. Longmans, Green, London.

Has bibliographical footnotes and bibliographies at the ends of most of the chapters on: fats, oils and waxes, tannins, nitrogen bases, enzymes, colloids, proteins, pigments.

Erepsin

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases and their applications.

Essential oils. See Oils, essential

Etching

Books on etching. 1917. Pittsburgh Carnegie Library mo bul v 22, p 154-60.

Contains 50 references with extensive notes.

Ethylene

Ethylene. 1919. William Malisoff and Gustav Egloff. J Phys Chem v 23, p 65-138.

On p 132-8 there are 324 references on ethylene.

Explosions

See also Coal dust, dust explosions

Study of explosions of gaseous mixtures. 1922. A. P. Kratz and C. Z. Roscraans. Ill U Eng Expt Sta Bul 133. 104p

On p 77-96 there are 217 references on the explosion of gases.

Explosives

Explosives: 1914 to 1919. 1919. William Rintoul. Soc Chem Ind annual repts appl chem v 4, p 523-73.

Has 250 footnote references covering the literature from 1914 to 1919. Includes many patents and deals with explosives for civil and military uses, especially gunpowder, blasting powder, nitroglycerine and TNT.

Explosives. 1920. William Rintoul. Soc Chem Ind annual repts appl chem v 5, p 523-65.

Has 211 bibliographical footnotes for the year 1920. These references are abstracted in the text.

Explosives. 1921. A. Marshall. Soc Chem Ind annual repts appl chem v 6, p 565-91.

Has 82 bibliographical footnotes for the year 1921. Abstracts are given in the text.

Explosives; a synoptic and critical treatment of the literature of the subject as gathered from various sources. 1912. H. Brunswig. Wiley, N.Y. 350p.

Contains numerous bibliographical footnotes.

Flüssige luft als sprengmittel im bergbau. 1915. Wuster. Dinglers Polytech J v 330, p 203.

Gives 20 references on the use of liquid air as an explosive in mining.

Handbuch der militärischen sprengtechnik. 1911. Bruno Zschokke. Veit, Leipzig. 418p.

There are about 100 references to sources of information on military explosives, on p XI-XVI.

High explosives; a practical treatise. 1918. E. deW. S. Colver. Lockwood, London. 830p.

Bibliography on p 750-2 consists of 60 references. A register of patents dating from about 1800 to 1917 is given on p 753-65. The text contains digests and abstracts of these patents.

Initial priming substances for high explosives. 1917. G. B. Taylor and W. C. Cope. U S Bur Mines Tech Pa 162. 32p.

On p 25-30 there are about 120 references on the history, properties and action of priming explosives, their preparation, manufacture and tests. Includes patents.

Manufacture and testing of military explosives. 1919. John A. Marshall. McGraw-Hill, N.Y. 261p.

Bibliography on p 213-53 has about 500 references arranged by author with topical captions.

Manufacture and uses of explosives. 1921. R. C. Farmer. Pitman, London. 116p.

Bibliography on p 113-14 has about 50 references and dates from 1900 to 1920.

Manufacture of explosives; theoretical and practical treatise on the history, physical and chemical properties and

manufacture of explosives. 1895. Oscar Guttman. Macmillan, N.Y. 2 v.

Bibliography of explosives in v 2, p 411-31, consists of 400 references arranged chronologically from the thirteenth century to 1895, with author index.

On a modified form of stability test for smokeless powder and similar materials. 1912. H. C. P. Weber. U S Bur Stand Bul v 9, p 119-29.

On p 128-9 there are 22 references on the stability and testing of nitrocellulose.

Rise and progress of the British explosives industry. 1909. Whittaker, N.Y. 418p.

Bibliography on p 170-9 consists of 125 references on explosives, pyrotechny, gunnery and ballistics dating from 1560 to 1909.

Specifications for munitions. 1918. Am Soc Mech Eng J v 40, p 109.

Has 11 references with notes on specifications for munitions.

Sprengverfahren. Nach der patentliteratur tabellarisch zusammengestellt von Adolf Oelker. 1914. Zeit f d ges Schiess und Sprengstoffwesen v 9, p 344-7, 357-60, 369-71; v 10, p 140-1, 169-70, 217-18, 342-5.

A tabulated list of American and foreign patents with abstracts, on explosives and detonators.

F

Fabrics. See Cotton, dyes and dyeing, fibres, textiles

Fats. See Oils and fats

Fatty acids

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 172-3 there are 50 references from 1900 to 1911 on the analysis of oils, fats, and fatty acids.

Fermentation

Alcoholic fermentation. 1911. Arthur Harden. Longmans, Green, London. 128p.

On p 115-26 is a bibliography of 272 references.

Fermentation in tannery liquors. 1922. B. S. Levine. Am Leather Chem Assoc J v 17, p 151-4.

Gives 5 references on p 154.

Enzymes and their applications. 1901. Jean Effront; tr. by S. C. Prescott. Wiley, N.Y. 322p.

There are bibliographies at the ends of the chapters. Deals with enzymes, fermentation, brewing, diastase, zymase, oxidases, etc.

Fermentation industries. 1916. Arthur R. Ling. Soc Chem Ind annual repts appl chem v 1, p 243-59.

Has 80 bibliographical footnotes for the year 1916. Text has abstracts of these references.

Fermentation industries. 1917. Arthur R. Ling. Soc Chem Ind annual repts appl chem v 2, p 405-48.

Has 159 footnote references for the year 1917. Text has abstracts of these references.

Fermentation industries. 1918. L. T. Thorne. Soc Chem Ind annual repts appl chem v 4, p 403-21.

Has 102 footnote references for 1918 on the fermentation industries as: brewing, yeast, beverages, hops, distilling, alcohol.

Fermentation industries. 1919. Adam Tait and Louis Fletcher. Soc Chem Ind annual repts appl chem v 4, p 422-48.

Has 147 bibliographical footnotes. Text has abstracts of these references.

Fermentation industries. 1920. Adam Tait and L. Fletcher. Soc Chem Ind annual repts appl chem v 5, p 418-49.

Has 161 footnote references for the year 1920. Text has abstracts of these references.

Fermentation industries. 1921. Arthur Slaton. Soc Chem Ind annual repts appl chem v 6, p 446-69.

Has 149 footnote references for the year 1921. Text has abstracts of these references.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 284-6 there is a list of 130 books dating from 1879 to 1921 on fermentation.

Molasses fermentation. 1920. Sugar v 22, p 633-4, 668.

A bibliography of about 75 references on molasses fermentation and the manufacture of alcohol from molasses.

Utilisation de la fermentation alcoolique comme source de glycerine. 1921. K. Schweizer. Chimie & Ind v 6, p 149-59.

Has 104 bibliographical footnotes on the preparation of glycerine.

Ferrites

Bibliography on the formation of ferrites in roasting blende. 1913. G. S. Brooks.

Am Inst Min Eng Trans v 45, p 222-3. Has 19 references.

Ferromanganese

See also Iron alloys

Manufacture of ferro-manganese. 1917. E. C. Buck. Chem & Met Eng v 17, p 638-42.

Has 98 references from 1877 to 1917, with annotations. Includes patents.

Ferromolybdenum

Die gewinnung, verarbeitung und verwertung des molybdänglanzes, sowie die herstellung des ferromolybdäns. 1921. Mehren. Edel Erden & Erze v 3, p 25-6, 39-40.

A review of the working of molybdenum ores and the production of ferromolybdenum, giving abstracts and references to the original literature.

Ferrosilicon

Untersuchungen über ferrosilizium. 1912. Schwartz. Kunstanstalten, Munich. 94p.

Has 124 bibliographical footnotes.

Fertilizers

Agricultural chemistry. 1918. E. J. Russell. Soc Chem Ind annual repts appl chem v 3, p 342-61.

Reviews the literature for 1918 on fertilizers, soils, foods. 87 references are given in footnotes.

Agricultural chemistry. 1919. E. J. Russell. Soc Chem Ind annual repts appl chem v 4, p 365-76.

Has 88 footnote references on fertilizers and other agricultural chemistry subjects.

Fertilizers—Continued

Behandlung und anwendung des stalldüngers. 1903. A. Stutzer. Parey, Berlin. 168p.
There are 102 references on p 163-5.

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, crepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Der chilisalpeter, seine bedeutung und anwendung als düngemittel. 1886. A. Stutzer. Parey, Berlin. 113p.

On p 110-13 there are 100 references from 1876 to 1885 on the use of Chile saltpetre as fertilizer.

Fertilizer resources of the United States. 1912. Washington, D.C. Govt Print Off. (U S 62d Cong., 2d sess., Senate doc. no. 190)

On p 78-106 there are about 800 references on the phosphate resources of the world, and on p 125 there are about 20 patents on the extraction of potash from minerals. On p 270-6 there is a reference list of papers concerning the economic uses of algae and concerning the salts derived from ashes; about 170 references dealing with the kelps of the coasts of the U.S. and Alaska.

Organic nitrogen compounds of soils and fertilizers. 1917. E. C. Lathrop. J Fr Inst v 183, p 489-98.

About 200 references from 1850 to 1915 arranged by author. Most of the references are foreign and deal with the subject from the physiological and agricultural viewpoints.

Plant products and chemical fertilizers. 1919. S. Hoare Collins. Van Nostrand, N.Y. 236p.

A general bibliography on p 223-4, consists of 50 references chiefly to text books. There are also references at the end of the chapters on fertilizers, soils and their properties, plant foods, plant products, and feedstuffs.

Soils and fertilizers. 1921. E. J. Russell. Soc Chem Ind annual repts appl chem v 6, p 403-17.

Has 86 footnote references for the year 1921. Text has abstracts of these references.

Fibre composition

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 136-49 there are about 180 annotated U.S. and foreign patents on miscellaneous plastics and pulp and fibre compositions.

Fibres

See also Textiles

Fibres, textiles, cellulose and paper. 1917. J. F. Briggs. Soc Chem Ind annual repts appl chem v 2, p 126-58.

Has 150 bibliographical footnotes for the year 1917. Abstracts are given in the text.

Fibres, textiles, cellulose and paper. 1918. J. F. Briggs. Soc Chem Ind annual repts appl chem v 3, p 115-46.

Has 112 bibliographical footnotes for 1918. Text has abstracts of these references.

Fibres, textiles, cellulose and paper. 1919. Sidney S. Napper. Soc Chem Ind annual repts appl chem v 4, p 114-36.

Has 132 bibliographical footnotes to articles issued during 1919. Text contains abstracts of these references.

Fibres, textiles, cellulose and paper. 1920. Sydney S. Napper. Soc Chem Ind annual repts appl chem v 5, p 125-49.

Has 163 footnotes to references abstracted in the text for the year 1920.

Fibres, textiles, cellulose and paper. 1921. Frank L. Barrett. Soc Chem Ind annual repts appl chem v 6, p 112-53.

Has 307 bibliographical footnotes for the year 1921. Abstracts are given in the text.

Pulp and paper research problems. Investigations planned and accomplished by the Forest Products Laboratory. 1920. Paper v 26, Apr 21, p 54, 56, 60, 62.

Bibliography of special fibres for pulp and paper purposes on p 60, 62, has 17 references.

Textile fibres, their physical, microscopical and chemical properties. 1907. Joseph M. Matthews. Wiley, N.Y.

Bibliography on p 431-8 has about 175 references.

Fillers

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co. N.Y. 313p.

On p 153-5 there are about 40 annotated U.S. and foreign patents on compositions for phonograph records, plastics, and vehicle tire fillings.

Retention of clay in paper: a study of some of the factors influencing the retention of fillers by paper pulp. 1916. John D. Rue. Paper v 19, no 4, p 18-25 (Oct 4).

A bibliography of 26 references on the sources and properties of mineral fillers is given on p 24-5.

Filter paper. *See* Paper, filter

Filters and filtration

See also Water purification

Diatomaceous earth. 1920. Norris Goodwin. Chem & Met Eng v 23, p 1158-60.

On p 1159-60, there are about 150 references on occurrence, tests of diatomaceous earth, patents on its use as filtering agent, building material, in paints, cements and polishing compounds.

Fine chemicals

Fine chemicals, medicinal substances, and essential oils. 1916. Frank Lee Pyman. Soc Chem Ind annual repts appl chem v 1, p 271-97.

Has 186 footnote references for 1916. Text contains abstracts of these references.

Fine chemicals, medicinal substances and essential oils. 1917. Frank L. Pyman. Soc Chem Ind annual repts appl chem v 2, p 468-94.

Has 154 bibliographical footnotes for the year 1917. Text has abstracts of these references.

Fine chemicals, medicinal substances and essential oils. 1918. George Barger. Soc Chem Ind annual repts appl chem v 3, p 430-56.

Has 180 bibliographical footnotes to the literature for 1918 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1919. T. A. Henry. Soc Chem Ind annual repts appl chem v 4, p 489-507.
Has 129 bibliographical footnotes to the literature for 1919 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1920. T. A. Henry. Soc Chem Ind annual repts appl chem v 5, p 486-504.
Has 107 bibliographical footnotes to the literature for 1920 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1921. Harold King. Soc Chem Ind annual repts appl chem v 6, p 517-38.
Has 167 footnote references for the year 1921. Text contains abstracts of these references.

Firebrick

See also Refractory materials

Texture of firebrick. 1916. J. W. Mellor. Faraday Soc Trans v 12, p 137-47.
Has about 60 bibliographical footnotes.

Fireproofing

Herstellung wasserdichter und feuersicherer stoffe durch imprägnieren von gewebe. 1912. Oscar Kausch. Kunststoffe v 2, p 29-31, 52-4, 88-93.

Reviews the patent literature on waterproofing and fireproofing of textiles.

Treatments of wood; preservatives and fire retardants. 1917. Am Inst Arch J v 5, p 253-5.

Has about 80 references.

Verfahren zum schutz des holzes und der gewebe gegen feuer. 1915. Friedrich Moll. Kunststoffe v 5, p 1-4, 15-18, 39-41, 52-3.
A list of patents of all countries with notes, on fireproofing wood and textiles.

Fischer, Emil

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.
Includes a short bibliography on the life of each of the following: Perkin, Mendelieff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Remsen, and Fischer.

Fishbone

Horn, elfenbein und fischbeinersatz. 1917. F. Marschalk. Kunststoffe v 7, p 185-7, 203-6.

Lists 86 patents with abstracts on substitutes for horn, ivory and fishbone.

Flash points

Flash points of oils. Methods and apparatus for its determination. 1914. Irving C. Allen. U S Bur Mines Tech Pa 49. 38p.

Bibliography on p 25-31 has about 140 references.

Flashpoints and burning points of gasoline-kerosene mixtures. 1919. J. T. Robson and J. R. Withrow. Chem & Met Eng v 21, p 245-52.

On p 252 is a brief bibliography of 28 references on the adulteration of kerosene with gasoline, and the effect of gasoline on the flash and ignition points of kerosene.

Flax straw

Seed flax straw as papermaking material. 1923. E. H. Kellogg. Paper Tr J v 77 (Aug 2) p 43-9.

There are 23 references on p 49.

Flocculation

See also Colloids

Migration and flocculation of colloids. 1906. Harrison E. Patten. Am Electrochem Soc Trans v 9, p 277-88.

Has about 80 bibliographical footnotes.

Zur kenntnis des flockungsvorganges. 1919. H. R. Kruyt and J. van der Spek. Kolloid Zeit v 15, p 1-1.

Has 46 bibliographical footnotes.

Phenomena of flocculation and deflocculation. 1910. E. E. Free. J Fr Inst v 170, p 46-57.

Bibliography on p 54-7 has 60 references on suspension and flocculation in general and on the mechanics of suspension.

Flotation

Bibliography of recent literature on the flotation of ores. July to Dec 1916. 1917. D. A. Lyon and others. U S Bur Mines Tech Pa 176. 24p.

About 160 references with comprehensive abstracts comprising articles that have appeared in periodicals from July 1 to Dec 31, 1916. Includes patents as well as a list of plants in the U.S. and Canada using the flotation process.

Concentrating ores by flotation. 1916. Theodore J. Hoover. Mining Magazine, London. 320p.

There is a very complete bibliography on flotation including references on capillary action, surface tension, and adhesion from 1900 to 1913 on p 201-54. About 2500 references. On p 290-312 there are about 600 references on the same subjects from 1914 to 1916.

Die schwimmaufbereitung der erze. 1921. Paul Vageler. Steinkopff, Dresden. 98p.

On p 88-93 there is a list of more than 100 German patents up to 1921 dealing with the flotation of ores and allied processes.

List of references on concentrating ores by flotation. 1916. J. Cunningham. Missouri U Bul 8, 104p Extracts in Am Inst Min Eng Bul 115, p 1131-6.

There are 903 references from 1890 to 1916, including U.S. and British patents and references to litigation.

Recent literature on the flotation of ores. Jan to June 1916. 1917. D. A. Lyon and others. U S Bur Mines Tech Pa 135. 17p.

About 130 references with comprehensive notes comprising articles that have appeared in periodicals from Jan 1 to July 1, 1916. Includes patents.

Testing for the flotation process. 1917.

Arthur W. Fahrenwald. Wiley, N.Y. 173p.
Has bibliographical footnotes.

Flour

Coal dust explosion tests in the experimental mine, 1913 to 1918 inclusive. 1922. George S. Rice. U S Bur Mines Bul 167. 630p.

On p 610-25 is a selected bibliography on the explosibility of coal dust in surface plants, grain dust explosions, and the explosibility of waste and miscellaneous dusts.

Microscopical examination of flour. 1920.

G. L. Keenan and M. A. Lyons. U S Dept Agr Bul 839. 32p.

Has 22 references dating from 1896 to 1915.

Physico-chemical studies of strong and weak flours. 1922. Paul F. Sharp and Ross A. Gortner. J Phys Chem v 26, p 101-36.

Has 19 bibliographical footnotes.

Fluorescence

Fluorescence of anthracene. 1911. Louisa S. Stevenson. *J Phys Chem* v 15, p 845-65.
Bibliography on p 864-5 has 42 references.

Fluorine

Chémie des fluors. 1920. Otto Ruff. Springer, Berlin. 136p.

There are 307 references given on p 129-33.

Fluor et ses composés. 1900. Henri Moissan. Steinheil, Paris. 396p.

On p 305-90 there is a bibliography of about 600 references arranged both chronologically and by author, from 1558 to 1899, on fluorine and its compounds.

Modified method for the determination of fluorine with special application to the analysis of phosphates. 1917. Cary R. Wagner and William H. Ross. *J Ind & Eng Chem* v 9, p 1116-23.

Has 50 bibliographical footnotes.

Foams

See also Colloids, emulsions

Sur la composition des écumes. 1923. J. Chatelan. *Jour de Chimie Phys* v 20, p 123-31.

There are 21 references on p 131 on foams.

Food factories

Lighting of the food industries. 1922. W. H. Rademacher. *Gen Elec Co Edison Lamp Works Lighting data bul* 143. 36p.

On p 36 there are 9 references on the lighting of food factories.

Food preservatives

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

Beginning on p 391 there is a list of 100 references from 1899 to 1911 on the analysis of food preservatives.

Foods

See also Preservatives and preservation

Agricultural chemistry. 1918. E. J. Russell. *Soc Chem Ind annual repts appl chem* v 3, p 342-61.

Reviews the literature for 1918 on fertilizers, soils, foods. 87 references are given in footnotes.

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by S. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Dehydrated foods. A list of references to material in the New York Public Library. 1917. Perrie Jones. *New York Public Library Bul* v 21, p 645-55.

Has 195 references with notes and subject index. Dates from 1885 to 1917.

Factors influencing the vitamin content of foods. 1921. R. A. Dutcher. *J Ind & Eng Chem* v 13, p 1102-4.

There are 18 references on p 1104.

Food chemistry in the service of human nutrition. 1918. H. C. Sherman. *J Ind & Eng Chem* v 10, p 383-90.

On p 390 there are 30 references on foods.

Food conservation. 1918. Pittsburgh Carnegie Library *mo bul* v 23, p 67-78.

Has 60 references.

Food dryers and the use of school houses for drying. 1918. W. L. Fleisher. *Am Soc Heat & Vent Eng J* v 24, p 382-4.

A bibliography of about 50 references.

Foods. 1918. H. W. Bywaters. *Soc Chem Ind annual repts appl chem* v 3, p 386-416.

Has 165 bibliographical footnotes for the year 1918. Text has abstracts of these references.

Foods. 1919. H. W. Bywaters. *Soc Chem Ind annual repts appl chem* v 4, p 449-64.

Has 79 bibliographical footnotes for the year 1919. Abstracts are given in the text.

Foods. 1920. H. W. Bywaters. *Soc Chem Ind annual repts appl chem* v 5, p 450-70.

Has 113 footnote references for the year 1920. Text contains abstracts of these references.

Foods. 1921. G. W. Monier-Williams. *Soc Chem Ind annual repts appl chem* v 6, p 470-97.

Has 85 footnote references covering the year 1921. Abstracts are given in the text.

Selective bibliography of dehydrated foods. 1919. E. D. Greenman. *Special Libraries* v 10, p 108-18.

Very complete classified bibliography of 370 references with notes on dried fruits, meats, vegetables, fish, eggs and milk.

Foods, Dehydrated

Dehydrated foods; a list of references to material in the New York Public Library. 1917. Perrie Jones. *New York*. 13p.

An annotated list of titles, including patents. Arranged chronologically.

Formaldehyde

Verfahren zur herstellung von kunstharzen u dgl aus phenol und formaldehyd. 1913. O. Kausch. *Kunststoffe* v 3, p 301-2.

A tabulation of German, French, British and U.S. patents with brief notes on the preparation of artificial resins from phenol and formaldehyde.

Foundry practice

Handbuch der eisen- und stahlgiesserei. 1911. C. Geiger. Springer, Berlin. 2 v.

There are bibliographies at the ends of the chapters. The largest bibliographies take up: effects of elements on iron and steel, properties of iron, fuels, pyrometry, foundry practice and open hearth operation.

Method of producing sound ingots. 1912. Robert Hadfield. *Iron & Steel Inst J* v 86, ii, p 11-47. *Also* *Am Railway Eng Assoc Pro* v 14, p 466-75.

On p 30-8 there are about 200 references covering the period 1873 to 1912.

Fucose

Structure of fucose. 1922. E. P. Clark. *U S Bur Stand Sci Pa* 459 v 18, p 527-34.

On p 534 there are 9 references.

Fuels

Coal tar as a source of fuel for heat and power uses. 1923. Wilbert I. Huff. *Gas Age* v 52, p 93-7.

There are 31 references on p 97.

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Fuel. 1917. J. S. S. Brame. Soc Chem Ind annual repts appl chem v 2, p 16-51.

Has 47 bibliographical footnotes for the year 1917. Text has abstracts of these references.

Fuel. 1918. J. Dunn. Soc Chem Ind annual repts appl chem v 3, p 18-40.

Has 59 bibliographical footnotes for the year 1918, on properties and combustion of liquid, solid and gaseous fuels. Text has abstracts of these references.

Fuel. 1919. J. T. Dunn. Soc Chem Ind annual repts appl chem v 4, p 20-40.

Has 67 bibliographical footnotes on the properties and combustion of liquid, solid and gaseous fuels, pulverized coal, etc. for the year 1919. Text has abstracts of these references.

Fuel. 1920. H. J. Hodsman and J. W. Cobb. Soc Chem Ind annual repts appl chem v 5, p 18-41.

Has 96 bibliographical footnotes for the year 1920 on the properties and combustion of liquid, solid and gaseous fuels. Text has abstracts of these references.

Fuel. 1921. J. S. S. Brame. Soc Chem Ind annual repts appl chem v 6, p 11-37.

Has 60 bibliographical footnotes on the properties and combustion of solid, liquid and gaseous fuels for the year 1921. Text has abstracts of these references.

Fuel and heating. 1916. J. W. Cobb. Soc Chem Ind annual repts appl chem v 1, p 7-30.

Has 69 bibliographical footnotes for 1916. Text has abstracts of these references.

Fuel and mineral briquetting. 1905. Robert Schorr. Am Inst Min Eng Trans v 35, p 115-16, 968-9.

A list of about 25 references.

Fuel briquetting investigations, July 1904 to July 1912. C. L. Wright. U S Bur Mines Bul 58, 227p.

Bibliography on fuel briquetting and fuel technology on p 266-72. Covers the years 1899 to 1912.

Fuel oil bibliography. 1921. Power v 51, p 482-4.

A list of over 150 references on fuel oil of interest to engineers from the power plant viewpoint.

Fuels used in Texas. 1913. William Battle Phillips. Texas U Bul 307, Sci ser 35, 287p.

On p 244-69 there is a bibliography of about 275 references on coal, lignite, natural and producer gas and petroleum in Texas.

Handbuch der eisenhüttenkunde. 1906. A. Ledebur. Felix, Leipzig, ed 5, 3 v.

There are long bibliographies at the ends of the chapters. These bibliographies are on: fuels, refractories and furnaces, slags, chemistry of the metallurgy of iron, blast furnace, iron, steel and rolling mills, etc.

Handbuch der eisen- und stahlgießerei. 1911. C. Geiger. Springer. Berlin. 2 v.

There are bibliographies at the ends of the chapters. The largest bibliographies take up: effect of elements on iron and steel, properties of iron, fuels, pyrometry, foundry practice and open hearth operation.

Methods of determining the sulphur content of fuels especially petroleum products. 1912. I. C. Allen and I. W. Robertson. U S Bur Mines Tech Pa 26, 13p.

Has 64 bibliographical footnotes.

Petroleo crudo como combustible. 1917. Edward M. Wilson. Mexico, dept de Talleres graf de la Sec de Fomento. 80p.

Bibliography on p 76-80 on liquid fuel. It is in English and has 150 references.

Powdered coal as fuel. 1920. Cecil F. Herington. Van Nostrand, N.Y. 338p.

Bibliography on p 305-24 has about 300 references.

Power alcohol, its production and utilization. 1922. G. W. Monier-Williams. Frowde, London. 323p.

Extensive lists of references are found at the end of each chapter.

Pulverized coal systems in America. 1922. Leonard C. Harvey. Dept of Sci & Ind Research. Fuel Research Board, spec rept no 1, London. 117p.

A bibliography of about 400 references with brief notes, up to Nov 1920.

Torfkraft. 1913. Friedrich Bartel. Springer, Berlin. 164p.

On p 160-4 there is a bibliography of about 175 references on peat and turf and their use as fuel.

Use of low grade mineral fuels and the status of powdered coal. References. F. P. Coffin. Gen Elec Rev v 20, p 631.

Has 26 references.

Utilization of waste sulphite liquor. 1919. Bjarné Johnsen and R. W. Hovey. Canada, Dept Int, Forestry branch bul 66, 193p.

A classified bibliography with notes on utilization of waste sulphite liquor, including its use as sources of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Fumes

Bibliography of injuries to vegetation by furnace gases. 1907. Persifor Frazer. Am Inst Min Eng Trans v 38, p 520-55.

Has 46 references from 1843 to 1905; each reference has an extensive abstract.

Metallurgical smoke. 1915. C. H. Fulton. U S Bur Mines Bul 84, 94p.

There are about 40 references on p 88-9.

Fungicides

Pickering sprays. 1920. F. C. Cook. U S Dept Agr Bul 866, 47p.

On p 46-7 there are 25 references on Bordeaux mixture.

Furfural

Commercial furfural: its properties and uses. 1922. C. S. Miner and others. Chem & Met Eng v 27, p 362-6.

A complete bibliography of furfural from 1832 to 1921. 267 references arranged chronologically.

Furnaces

Brass furnace practice in the United States. 1916. H. W. Gillett. U S Bur Mines Bul 73, 298p.

Contains a number of bibliographical footnotes on all phases of brass furnace practice.

Pulverized coal in metallurgical furnaces. 1913. J. Lord and others. Eng Soc W Pa Pro v 29, p 417.

Has 15 references dating from 1901 to 1913.

Furnaces—Continued

Regenerative stoves. Bibliography. 1912.
Eng Soc W Pa Pro v 27, p 703-4.
A list of 16 references with brief notes.

G**Gadolinium**

Neue arbeiten auf dem gebiete der seltenen erden und ihre verbingungen. 1921. S. Halen. Edel Erden und Erze v 2, p 185-6.

Outlines the literature of the rare earths in general, then that on cerium, yttrium, gadolinium, holmium, scandium and samarium for the years 1917 to 1920.

Galactose

History of galactose, its discovery and methods of preparation. 1923. T. Swann Harding. Sugar v 25, p 175-7.
There are 34 references on p 177.

Gallium

Index to the literature of gallium, 1874 to 1903. 1904. Philip E. Browning. Smithsonian Misc Col. 12p.

Garbage disposal

City garbage, what it is, its value and proper treatment. 1913. C. O. Bartlett. Cleveland Eng Soc J v 6, p 299-315.

At the end of this paper there are 13 references on the collection and disposal of garbage, with notes, covering the period 1906 to 1913.

Refuse and garbage disposal. 1909. Pittsburgh Carnegie Library mo bul v 14, p 3-34.

A bibliography of sanitary disposal of garbage and domestic refuse by direct land disposal methods, incineration, and reduction with steam and solvents.

Garnet

Garnet. 1922. Raymond B. Ladoo. U S Bur Mines repts invest 2347. 16p mimeographed.

On p 15-16 there is a list of 23 references on the resources, mining, milling and utilization of garnet.

Gas analysis

A partial list of papers and books bearing on the subject of air and air analysis. 1911. Edwin M. Chance. J Fr Inst v 172, p 461-94.

Contains bibliographical footnotes and on p 490-4 over 100 references dealing chiefly with the determination of carbon monoxide and the physiological effect of the composition of mine air.

Beiträge zur kenntnis natürlicher gasausströmungen. 1913. Emerich Czako. Braun, Karlsruhe. 85p.

On p 81-2 there are 20 references on the analysis of mine gases and gases occluded by coal.

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Sampling and examination of mine gases and natural gas. 1913. G. A. Burrell and F. M. Seibert. U S Bur Mines Bul 42. 116p.

Contains a number of bibliographical footnotes on gas analysis.

Gas lighting

Übersicht der die verwendung von edelmetallen und edelerden in der beleuchtungsindustrie betreffenden deutschen patente. 1923. Oelker. Edel Erden & Erze v 4, p 5-6.

25 German patents with abstracts on catalytic gas igniters.

Übersicht der die verwendung von edelmetallen und edelerden in der beleuchtungsindustrie betreffenden deutschen patente. 1923. Oelker. Edel Erden & Erze v 4, p 15-16.

A list of 20 German patents with abstracts on the use of noble metals and rare earths in gas lighting.

Gas manufacture

Bibliography of ammonium sulphate. 1911. A. D. Way. Am Gas Inst Pro v 6, pt 1, p 223-6.

About 70 references to books, periodicals and official reports.

Bibliography of products of gas manufacture; conditions prevailing in the by-product market as shown by a compilation of references to the more important articles published in Gas Age and other periodicals since 1910. 1915. Gas Age v 35, p 321-4, 384-7, 446-7.

About 370 references arranged chronologically covering the period 1910 through 1914.

Bibliography of the chemistry of gas manufacture. 1915. Walter F. Rittman. U S Bur Mines Tech Pa 120. 29p.

Has 274 references with subject and author index.

British progress in gas works' plant and machinery. 1905. Charles E. Brackenbury. Constable, London. 105p.

"Classified list of British gas engineering literature" on p 67-8. Has about 300 references and dates from 1803 to 1905.

Brown's directory of American gas companies. 1921.

On p 396-417 there is a list of about 250 books arranged by subject and author with synopsis of contents.

Chemistry of gas manufacture. 1915. W. F. Rittman and M. C. Witaker. Gas Age v 36, p 412-13, 460-2, 512-14.

Selected bibliography of 267 references on carbonization and distillation of coal, gas manufacture, water gas, gas producers, petroleum distillation, oil gas, chemical equilibrium and catalysis in the gas industry.

Coal and coke. 1916. Frederick H. Wagner. McGraw-Hill, N.Y. 431p.

There are 45 references on gasification on p 417-18.

Current gas literature. 1915. Gas Age v 35, p 467.

Has 30 references for 1915 on the manufacture of gas, byproducts, coking and the gas industry.

Gas, destructive distillation, tar products.

1916. E. V. Evans. Soc Chem Ind annual repts appl chem v 1, p 31-60.

Reviews the literature for 1916 and gives 75 bibliographical footnotes.

Gas, destructive distillation, tar products. 1917. E. W. Smith. Soc Chem Ind annual repts appl chem v 2, p 52-68. Has 22 bibliographical footnotes for the year 1917.

Gas, destructive distillation, tar products. 1918. Alwyne Meade. Soc Chem Ind annual repts appl chem v 3, p 41-62. Reviews the literature for 1918 and gives 55 bibliographical footnotes.

Gas, destructive distillation, tar products. 1919. E. V. Evans. Soc Chem Ind annual repts appl chem v 4, p 41-65. Reviews the literature for 1919 and gives 50 bibliographical footnotes.

Gas, destructive distillation, tar products. 1920. Geoffrey Weyman. Soc Chem Ind annual repts appl chem v 5, p 42-70. Has 123 bibliographical footnotes for 1920. The text contains abstracts of these references.

Gas, destructive distillation, tar products. 1921. Geoffrey Weyman. Soc Chem Ind annual repts appl chem v 6, p 38-66. Has 137 footnote references for 1921. The text gives abstracts of these references.

Modern gasworks chemistry. 1922. Geoffrey Weyman. Benn, London. 184p. Gives references at the ends of the chapters.

Sulphur in mond gas. References. 1907. Soc Chem Ind J v 26, p 368. There are 22 references on the estimation of sulphur in coal gas dating from 1882 to 1903.

Gas measurement

Messung grosser gasmengen. 1922. L. Litinsky. Spamer, Leipzig. 274p. On p 260-6 there are 153 references on the measuring of gas and air flow.

Study of the question of meter repairs. 1914. Am Gas Inst Pro v 9, p 1226-7. Gives 9 references with brief notes on the repairing of gas meters.

Gas, Natural. See Natural gas

Gas producers

Bibliography of gas producers. 1906. Samuel S. Wyer. Am Inst Min Eng Trans v 36, p 64-78. Also Rev de Met ext v 3, p 396-401. About 200 references with annotations arranged chronologically from 1866 to 1905.

Producer gas, its manufacture and use. 1918. C. S. Palmer. Eng Soc West Pa v 34, p 347-53.

A bibliography of about 70 general references on producer gas and the iron and steel industry.

Resumé of producer gas investigations Oct. 1, 1904, to June 30, 1910. 1911. R. H. Fernald and C. D. Smith. U S Bur Mines Bul 13. 392p. On p 359-78 there is a bibliography dating from 1841 to 1910, grouped in 10 year periods.

Slagging gas producer. Bibliography. 1913. William H. Blauvelt. Am Inst Min Eng Trans v 47, p 434-5. Contains 25 references.

Treatise on producer gas and gas producers. 1907. Samuel S. Wyer. McGraw-Hill, N.Y. 308p.

Bibliography of 355 references on gas producers, with annotations, is given on p 277-90. Extends from 1841 to 1905.

Bibliography of articles on naphthalene removal from gas prior to 1904. 1904. A. H. White and S. Ball. Am Gas Light J v 81, p 605. Also J Gas Light v 88, p 326.

Standard methods of gas testing. 1916. U S Bur Stand Circ no 48, p 187-8.

Has a list of 31 more important books of interest to the gas inspector.

Gases

See also under name of gas

A few suggestions on the theories of occlusion of gases by metals. 1919. J. H. Andrew. Faraday Soc Trans v 14, p 232-9.

There are 8 references on p 239.

Bibliography of injuries to vegetation by furnace gases. 1907. Persifor Frazer. Am Inst Min Eng Trans v 38, p 520-55. Has 46 references from 1843 to 1905; each reference has an extensive abstract.

Elektrische behandlung von gasen. 1922. Henri Silberman. Jänecke, Leipzig. 348p. On p 347-8 there are about 200 patents on the applications of electric discharges upon gases, preparation of ozone, dust and mist removal from gases, synthesis of nitric oxide, ammonia, etc.

Gas as a case hardening agent. Bibliography. 1915. Alfred H. White and Homer T. Wood. Am Gas Light J v 103, p 266. Has 30 references dating from 1908 to 1914.

Gases used in warfare. 1919. D. D. Berlozheimer. J Ind & Eng Chem v 11, p 256. About 80 references to some thirty various gases used in warfare. References are to standard textbooks. Also, p 263 for additional references to phosgene.

Influence of molecular constitution upon the internal friction of gases. 1905. F. M. Pederson. McIlroy, N.Y. 59p. On p 54-9 there are 170 references arranged by author.

Messung der spezifischen wärme von gasen. 1922. Max Trautz and O. Grosskinsky. Annalen der Physik v 67, p 462-526.

On p 521-6 there is a bibliography of 110 references on the determination of the specific heat of gases by the differential method.

Occlusion of gases by metals. 1918. Robert Hadfield. Faraday Soc supplement. 26p.

Contains a bibliography of 73 references.

Occlusion of gases by metals. 1919. Faraday Soc Trans v 14, p 173 et seq.

Table facing p 190 contains a list of 73 references from 1861 to 1913, with annotations, on occluded gases. Additional references are given on p 201.

Poisonous gases in warfare, application, prevention, defense and medical treatment. 1918. Henry E. Haferkorn. Press of the Engr School, Washington, D.C. Reprint from Prof Mem Corps of Engrs U S Army v 9, p 48.

A bibliography of 267 annotated references.

Solubility of gases in liquids. 1922. B. S. Neuhauser. J Phys Chem v 26, p 553-62.

Has 22 bibliographical footnotes.

Gases—Continued

Study of explosions of gaseous mixtures. 1922. A. P. Kratz and C. Z. Rosecrans. Ill U Eng Expt Sta Bul 133. 104p.
On p 77-96 there are 217 references on the explosion of gases.

Vapor pressure of gases in the presence of liquids. 1914. F. H. Campbell. Faraday Soc Trans v 10, p 197-206.

Has 28 bibliographical footnotes.

Gasoline

Flashpoints and burning points of gasoline-kerosene mixtures. 1919. J. T. Robson and J. R. Withrow. Chem & Met Eng v 21, p 245-52.

On p 252 is a brief bibliography of 28 references on the adulteration of kerosene with gasoline, and the effect of gasoline on the flash and ignition points of kerosene.

Gasoline cracking processes. 1920. Fred W. Padgett. Chem & Met Eng v 23, p 908-13.

On p 911-13 is a fairly complete list of U.S. and foreign patents relating to the cracking of petroleum.

Preparation of gasoline and kerosene from heavier hydrocarbons. 1915. Benjamin T. Brooks and others. J Ind & Eng Chem v 7, p 180-5.

Has 35 bibliographical footnotes.

Production of gasoline by cracking heavy oils. 1922. E. W. Dean and W. A. Jacobs. U S Bur Mines Tech Pa 258. 256p.

On p 51-5 there are 38 annotated references.

Technical examination of crude petroleum, petroleum products and natural gas. 1920. William H. Hamor. McGraw-Hill, N.Y. 591p.

On p 547-9 there is a bibliography of 18 references with notes on the extraction of gasoline from natural gas. References date from 1912 to 1919.

Gelatine

Chemistry and technology of gelatine and glue. 1922. Robert H. Bogue. McGraw-Hill, N.Y. 644p.

On p 313-17 there are 100 references on the manufacture of glue and gelatine.

Diffusionsvorgänge in gelatine. 1922. Carl A. Schleussner. Kolloid Zeit v 31, p 347-52.

On p 348-9 there are 53 references on diffusion phenomena.

First report of the Adhesives Research Committee. 1922. Dept Scientific and Indust Research, London. 129p.

Has a descriptive bibliography of gelatine on p 51-126 compiled by T. S. Price, giving abstracts of most of the important articles on gelatine, its physical properties, especially viscosity, swelling, setting point, melting point, coagulation, hardening and jelly strength.

Herstellung von leim und gelatine. 1912. S. Halen. Kunststoffe v 2, p 160-3, 208-11, 227-31, 267-9.

Gives abstracts from the patent literature on the manufacture of glue and gelatine.

Industrial organic chemistry. Ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 601p.

On p 408 there is a list of 30 books dating from 1885 to 1913 on leather, gelatine and glue.

Plastics and electrical molded insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 149-50 there are about 50 annotated U.S. and foreign patents on plastics, and compositions with gelatinous, albuminous and similar bases.

Properties and constitution of glues and gelatines. 1920. Robert H. Bogue. Chem & Met Eng v 23, p 197-203.

On p 201-3 there are about 160 references on the manufacture, physical properties, tests, chemical constitution and structure of glues and gelatines, together with colloidal considerations and the significance of the hydrogen ion.

Recent chemical and technological advances in our knowledge of gelatine and glue. 1922. Robert H. Bogue. J Ind & Eng Chem v 14, p 795-7.

Has 38 references covering the literature from 1911 to 1922.

Germanium

Carbon and its allies. 1917. Robert Martin Caven. Griffin, London. 468p.

Has numerous bibliographical footnotes on carbon, silicon, germanium, thorium, zirconium, titanium, tin, lead, and their compounds. A bibliography of tin alloys is given on p 339-40.

Index to the literature of germanium, 1886-1903. 1904. Philip E. Browning. Smithsonian Misc Col. 8p.

Glass

Annealing of glass. 1920. L. H. Adams and E. D. Williamson. J Fr Inst v 190, p 597-632, 835-70.

Has 62 bibliographical footnotes.

Bibliographie sur l'industrie du verre de silice. 1921. G. Flusin. Chim & Ind v 5, p 270.

Has 35 references and a list of 81 references relating to the glass industry.

Concerning the annealing and characteristics of glass. 1920. A. Tool. U S Bur Stand Sci Pa 358, v 13, p 537-71.

On p 570-1 there are 53 references from 1868 to 1919 on annealing, viscous and plastic deformation, double refraction, stresses, nature and characteristics of glass.

Glass. 1919. W. J. Rees. Soc Chem Ind annual repts appl chem v 4, p 170-7.

Has 23 bibliographical footnotes for the year 1919. Text has abstracts of these references.

Glass. 1920. W. E. S. Turner. Soc Chem Ind annual repts appl chem v 5, p 185-202.

Reviews the literature for 1920 and gives 84 bibliographical footnotes.

Glass. 1921. W. E. S. Turner. Soc Chem Ind annual repts appl chem v 6, p 198-210.

Reviews the literature for 1921 and gives 80 bibliographical footnotes.

Glass and ceramics. 1916. J. A. Audley. Soc Chem Ind annual repts appl chem v 1, p 133-49.

Has 84 footnote references for the year 1916. Text abstracts these references.

Glass industry. 1917. U S Bur Foreign and Dom Commerce report 60.

A bibliography of 460 titles on the glass industry.

- Glass, refractories. 1918. W. J. Rees. Soc Chem Ind annual repts appl chem v 3, p 184-208.
Has 70 bibliographical footnotes for the year 1918. Text abstracts these references.
- Glass, refractory materials, ceramics and building materials. 1917. W. J. Rees. Soc Chem Ind annual repts appl chem v 2, p 204-41.
Has 131 footnote references for the year 1917. Abstracts are given in the text.
- L'industrie du verre de silice. 1921. Georges Flusin. *Chimie et Ind* v 5, p 257-70.
On p 267-70 there are 81 patents on glass and on p 270 there are 54 references on the glass industry.
- Measurements on the gases evolved from glasses of known chemical composition. 1923. J. E. Harris and E. E. Schumacher. *Bell System Tech J* v 2, p 122-32.
A list of 39 references is given on p 131-2.
- Notes on barium glasses. 1916. A. E. Williams and S. F. Cox. *Am Ceramic Soc Trans* v 18, p 315-42.
Has 11 bibliographical footnotes.
- Notes on the development of the ruby color in glass. 1914. A. E. Williams. *Am Ceramic Soc Trans* v 16, p 284-306.
Has 17 bibliographical footnotes.
- Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.
On p 101-5 there are about 60 annotated patents on glass.
- Silica and the silicates. 1921. James A. Audley. Baillière, London. 374p.
Bibliographies are at the ends of the various sections, more than 100 references in all. Silica, p 45; silicates, p 122; lime, cement and mortar, p 167; ceramic industries, p 272; glass and enamels, p 334; and miscellaneous applications, p 357.
- Zur geschichte des optischen glases. 1922. Walther Zschokke. *Zeit f Instrumentenkunde* v 42, p 208-15.
On p 215 there are 4 references on optical glass.
- Glazes**
- Chemical role of boron in glazes. 1912. Ross C. Purdy. *Am Ceramic Soc Trans* v 14, p 731-9.
Has 20 bibliographical footnotes.
- Glue**
- Bibliography on casein and casein glues. 1919. Forest Products Laboratory Tech Notes F-6.
Lists 35 references.
- Chemistry and technology of gelatine and glue. 1922. Robert H. Bogue. McGraw-Hill, N.Y. 644p.
On p 313-17 there are 100 references on the manufacture of glue and gelatine, and on p 365-6 there is a select bibliography of 20 references on fish glues.
- Die während des krieges patentierten und bisher bekannt gewordenen erfindungen auf den gebiete der kitt, leim, und klebmittelfabrikation. 1919. S. Halen. *Kunststoffe* v 9, p 129-31, 146-7.
Gives a list of patents with brief notes on the manufacture of cements, adhesives and glues.
- Herstellung von leim und gelatine. 1912. S. Halen. *Kunststoffe* v 2, p 160-3, 208-11, 227-31, 267-9.
Gives abstracts from the patent literature on the manufacture of glue and gelatine.
- Im gewerbe, in der industrie und im haus-halt verwendbare kitte. 1912. S. Halen. *Kunststoffe* v 2, p 321-5, 368-71.
Abstracts from the patent literature of cements and glues from resins, rubber, oil, albuminoids, and mineral cements.
- Industrial organic chemistry. ed 5. 1923. Samuel P. Saddler and Louis J. Matos. Lippincott, Philadelphia. 691p.
On p 408 there is a list of 30 books dating from 1885 to 1913 on leather, gelatine and glue.
- Kitte, kleb und bindemittel. 1917. M. Schall. *Kunststoffe* v 7, p 57-9.
Reviews the patent literature on glues and binders.
- Leather and glue. 1916. Joseph T. Wood. *Soc Chem Ind annual repts appl chem* v 1, p 226-42.
Has 60 footnote references for the year 1916 with abstracts in the text.
- Leather and glue. 1917. Joseph Wood. *Soc Chem Ind annual repts appl chem* v 2, p 353-74.
Has 77 footnote references for 1917 with abstracts in the text.
- Leather and glue. 1918. F. C. Thompson. *Soc Chem Ind annual repts appl chem* v 3, p 321-41.
Reviews the literature for 1918, and gives 72 bibliographical footnotes.
- Leather and glue. 1919. F. C. Thompson. *Soc Chem Ind annual repts appl chem* v 4, p 347-64.
Abstracts the literature for 1919 and gives 82 bibliographical footnotes.
- Leather and glue. 1920. F. C. Thompson. *Soc Chem Ind annual repts appl chem* v 5, p 351-69.
Reviews the literature for 1920 and gives 90 bibliographical footnotes.
- Leather and glue. 1921. D. Woodroffe. *Soc Chem Ind annual repts appl chem* v 6, p 379-402.
Has 113 footnote references for 1921 with abstracts in the text.
- Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.
On p 113-16 there are about 60 annotated U.S. and foreign patents on casein, its use in glues, paper manufacture, paints and other uses.
- Properties and constitution of glues and gelatines. 1920. Robert H. Bogue. *Chem & Met Eng* v 23, p 197-203.
On p 201-3 there are about 160 references on the manufacture, physical properties, tests, chemical constitution and structure of glues and gelatines, together with colloidal considerations and the significance of the hydrogen ion.
- Recent chemical and technological advances in our knowledge of gelatine and glue. 1922. Robert H. Bogue. *J Ind & Eng Chem* v 14, p 795-7.
Has 38 references covering the literature from 1911 to 1922.

Glue—Continued

Some references to the literature on the manufacture and testing of animal glues. 1919. Forest Products Laboratory Tech Notes F-7.
Lists 9 references.

Water-resistant glues. 1919. F. L. Browne. *Chem & Met Eng* v 21, p 136-8.

On p 138 there are 28 references to casein and casein glues, 6 patents on casein glues, and 9 references to animal glues.

Glycerine

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 286-7 there are 20 references from 1900 to 1911 on the analysis of soap and glycerine.

Utilisation de la fermentation alcoolique comme source de glycérine. 1921. K. Schweizer. *Chimie & Ind* v 6, p 149-59.
Has 104 bibliographical footnotes on the preparation of glycerine.

Gold

See also Cyanide process

Bibliography of gold milling in 1909. *Mineral Industry* v 18, p 383.

A list of 12 references.

Bibliography. The cyanide process: articles on coarse and fine grinding, solution of gold and silver, and filtration. 1916. L. D. Mills. *Int Eng Cong*, San Francisco, Met volume p 355-60.

Has 130 references to books and articles on the cyanide process, coarse and fine grinding, tube milling, solution of gold and silver, filtration, settling and agitating.

Die gewinnung des goldes aus erzen, kieser u. dgl. auf dem wege der chlorextraktion. 1921. Meren. *Edel Erden & Erze* v 2, p 49-51.

A review of the patent literature on the extraction of gold by solution.

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver and platinum in dyes and paints.

Electrodeposition of gold and silver. 1913. Francis C. Frary. *Am Electrochem Soc Trans* v 23, p 25-97.

Has about 400 bibliographical footnotes.

Hydrometallurgical treatment of complex gold and silver ores. 1915. G. H. Clevenger. *2d Pan Am Sci Cong Pro* v 8, p 448-52.

Has about 48 bibliographical footnotes.

Metallurgy of gold. ed 6. 1915. T. K. Rose. Griffin, London. 601p.

On p 564-74 there is a list of about 400 books on the metallurgy of gold. There are also many bibliographical footnotes.

Neue arbeiten auf dem gebiete der erforschung und gewinnung des goldes sowie seiner verbindungen. 1921. S. Halen. *Edel Erden & Erze* v 2, p 113-15, 121-3.
Outlines the literature of gold and its compounds.

Precipitation from cyanide solutions. 1915. G. H. Clevenger. *Am Electrochem Soc Trans* v 28, p 263-302.

On p 301-2 there are 24 references with brief notes on the electrical precipitation of gold from cyanide solutions.

Sampling and assay of the precious metals. 1913. Ernest A. Smith. Griffin, London. 460p.

On p 434-5 there is a bibliography of 18 references on the assaying and determination of platinum, gold and silver. Notes are given, and the references date from 1879 to 1912.

Stamp milling and cyaniding. 1915. Francis A. Thomson. McGraw-Hill, N.Y. 285p.

Contains rather extensive bibliographies at the end of nearly all the chapters, dealing with all phases of the treatment of gold and silver ores. Amalgamation, p 12; stamp mill and accessories, p 51-5; stamp mill amalgamation, p 76-8; variations in practice, p 86-7; various mills and grinders, p 104-9, 118-19; history and chemistry of cyaniding, p 133-6; cyaniding of ores, p 145, 173-7, 201-5; precipitation and recovery of gold and silver, p 212-16, 222-4; treatment of gold ores, p 247-54, treatment of silver ores, p 262-5; miscellaneous references, costs, etc., p 266-9.

Textbook of cyanide practice. 1912. H. W. MacFarren. McGraw-Hill, N.Y. 291p.

Classified bibliography on p 215-68 of more than 1000 references, including every phase of cyanide practice, both U.S. and foreign.

Textbook of Rand metallurgical practice. 1912. Ralph Stokes and others. Griffin, London. 2 v.

Bibliographies are given at the ends of the various chapters on all phases of the metallurgy of gold and treatment of gold ores.

Ueber die adsorption von natriumaurichlorid an kohle und die bestimmung des goldes im meerwasser. 1918. Hellmuth Koch. *Kolloid Zeit* v 22, p 1-22.

On p 22 there are 12 references on gold in seawater.

Grain dust explosions

See also Dust explosions

Coal dust explosion tests in the experimental mine, 1913 to 1918 inclusive. 1922. George S. Rice. *U S Bur Mines Bul* 167. 639p.

On p 610-25 is a selected bibliography on the explosibility of coal dust in surface plants, grain dust explosions, and the explosibility of waste and miscellaneous dusts.

Grain dust explosions. 1918. W. Dedrick and others. *U S Dept Agr Bul* 681. 54p.

On p 53-4 there are 39 references on explosions of grain and other dusts.

Grain growth

Metallurgy of aluminum. 1919. R. J. Anderson. *J Fr Inst* v 187, p 1-47.

On p 44-7 there is a bibliography of 61 references on the general subject of aluminum; the amorphous theory, and plastic deformation; grain growth in metals; annealing and recrystallization; metallography.

Grain products

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 346-8 there are 40 references on the analysis of grain products.

Grain size

Grain size measurements in metals. 1916. Zay Jeffries. *Faraday Soc Trans* v 12, p 40-53.
There are 12 references on p 53.

Grapefruit

Some constituents of the American grapefruit. 1918. Harper F. Zoller. *J Ind & Eng Chem* v 10, p 364-74.

On p 373-4 there are 42 references on the citrus fruits, including references to the chemical study of them.

Graphite

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg, Braunschweig. 2 v.

In v 1 on p 208 there are 35 references on artificial graphite.

Greene, William Houston

Papers by William H. Greene. 1918. *J Fr Inst* v 186, p 390-2.

A chronological list of 45 papers from 1877 to 1893 by Dr W. H. Greene, dealing chiefly with organic and medical chemistry.

Grignard reaction

Bibliography of the Grignard reaction. 1900 to 1921. 1922. Clarence J. West and H. Gilman. *Nat Research Council*, reprint & circular ser no 24. 103p.

Comprises 1485 references.

Some recent applications of magnesium in synthetic organic chemistry. 1922. H. Hepworth. *Soc Chem Ind J* v 41, p 7T-11T.

A valuable and comprehensive review of the recent applications of the Grignard reagents with numerous references.

Gums

Sugars, starches and gums. 1917. T. H. P. Heriot. *Soc Chem Ind annual repts appl chem* v 2, p 375-404.

Has 116 footnote references for the year 1917. Text has abstracts of these references.

Sugars, starches and gums. 1918. James P. Ogilvie. *Soc Chem Ind annual repts appl chem* v 3, p 362-85.

Reviews the literature for 1918 and gives 83 bibliographical footnotes.

Sugars, starches and gums. 1919. James P. Ogilvie. *Soc Chem Ind annual repts appl chem* v 4, p 377-402.

Reviews the literature for 1919 and gives 96 bibliographical footnotes.

Sugars, starches and gums. 1920. James P. Ogilvie. *Soc Chem Ind annual repts appl chem* v 5, p 389-417.

Has 98 bibliographical footnotes for the year 1920. Text has abstracts of these references.

Sugars, starches and gums. 1921. Lavis Elynor and J. H. Lane. *Soc Chem Ind annual repts appl chem* v 6, p 418-45.

Has 123 bibliographical footnotes for the year 1921. Text has abstracts of these references.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovcy. *Canada, Dept Int, Forestry Branch Bul* 66. 193p.

A classified bibliography with notes on utilization of waste sulphite liquor, including its use as sources of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Gutta-percha

Caoutchouc et gutta-percha. 1911. Eugene Tassilly. Paris. 395p.

There are more than 150 references on p 381-6 on rubber and gutta-percha.

Kautschuk und guttapercha ersatzstoffe. 1911. Oskar Kausch. *Kunststoffe* v 1, p 408-11, 430-3, 474-6.

A review of the patent literature on substitutes for rubber and gutta-percha.

Guye, Philippe A.

Ph. A. Guye. 1923. *J de Chimie Physique* v 20, p 1-17.

On p 10-17 there is a list of 210 papers written by Ph. A. Guye.

Gypsum

Cement, lime and gypsum, in general. 1917. *Am Inst Arch J* v 5, p 576.

Has 20 references.

Influence of gypsum upon the solubility of potash in soils. 1918. Paul R. Mc-Miller. *J Agr Research* v 14, p 61-6.

8 references are given on p 65-6.

Notes on the gypsum industry of New York. 1904. Annual rept New York State Geologist no 23, 1903, p 156-7.

Contains 27 references on the gypsum industry in New York.

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cement, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous base, oxychloride and other oxysalt compounds.

Special report on gypsum and gypsum cement plasters. 1899. George P. Grimsley and E. H. S. Bailey. Parks, Topeka, Kansas. *Also Kan U Geol Sur Rept* v 5.

Contains a list of about 100 references.

H**Haber process**

See also Nitrogen fixation

Literature of the nitrogen industries. 1917. Helen R. Hosmer. *J Ind & Eng Chem* v 9, p 425-38.

Reviews literature of nitrogen fixation, Haber process, ammonia synthesis, Ostwald process, ammonia from byproduct coke ovens, and calcium cyanamide. 152 papers are referred to and listed on p 437-8. Covers the period from 1912 to 1916.

Hadfield, Robert

List of papers by Sir Robert Hadfield from 1888 to date. 1914. *Faraday Soc Trans* v 10, p 29-32.

Lists 62 papers on iron and steel.

Progress of the metallurgy of iron and steel. 1914. Robert Hadfield. *Am Inst Min Eng Bul* v 89, p 840-3.

A chronological list of 62 papers on the metallurgy of iron and steel by the author: covers the period 1888 to 1914.

Hadfield, Robert—Continued

Special steels. 1923. Thomas H. Burnham. Pitman, London. 193p.

On p 166-83 there are 135 papers by Sir Robert Hadfield.

Halogens

See also under name of specific halogen

Halogens and their allies. 1915. Goeffrey Martin. Griffin, London. 337p.

Has numerous bibliographical footnotes.

Heat of combustion

Combustion calorimetry and the heats of combustion of cane sugar, benzoic acid, and naphthalene. 1914. Herbert C. Dickinson. U S Bur Stand Bul v 11, p 189-257.

On p 256-7 there are 41 references on the heats of combustion of solids and general calorimetric problems.

Heat transmission

Heat transfer by conduction and convection. Liquids flowing through pipes. 1922. W. H. McAdams and T. H. Frost. J Ind & Eng Chem v 14, p 1101-5.

Bibliography of 16 references is given on p 1104-5.

Heat treatment. See Steel, heat treatment

Helium

Beiträge zur kenntnis natürlicher gasausströmungen. 1913. Emerich Czako. Braun, Karlsruhe. 85p.

On p 83-5 there are 52 references to literature on the radioactivity and helium content of natural gas flows.

Bibliography of helium literature. 1919. E. R. Weaver. J Ind & Eng Chem v 11, p 682-8.

About 700 references classified according to subject. Main subjects are: occurrence, formation, separation and purification, properties, spectrum, liquefaction, uses in thermometry, photometry and in low temperature work.

Bibliography of scientific literature relating to helium. 1922. E. R. Weaver. U S Bur Stand Circ 81. 32p.

A classified bibliography with annotations on helium, its occurrence, properties, uses, preparation, liquefaction, and the relation of helium to subatomic phenomena.

Heusler alloys

Heusler alloys. 1912. A. A. Knowlton. Faraday Soc Trans v 8, p 195-206.

On p 206 there are 8 references.

Magnetic properties of Heusler alloys. 1910. Edward B. Stephenson. III U Eng Expt Sta Bul 47. 38p.

Bibliographical footnotes on p 3-8 and a list of about 30 books is given on p 37-8.

Hides

See also Tanning

Herstellung künstlicher pelze. 1914. M. Schall. Kunststoffe v 4, p 263-6, 289-91.

A tabulation of 55 patents with brief notes on artificial hides.

Preparation of skin for tanning. 1922. J. A. Wilson. J Ind & Eng Chem v 14, p 834-6.

Has 30 bibliographical footnotes covering the period from 1910 to 1922.

Holmium

Neue arbeiten auf dem gebiete der seltenen erden und ihre verbindungen. 1921. S. Halen. Edel Erden & Ezre v 2, p 185-6.

Outlines the literature of the rare earths in general, then that on cerium, yttrium, gadolinium, holmium, scandium and samarium for the years 1917 to 1920.

Horn

Horn, elfenbein und fischbeinersatz. 1917. F. Marschalk. Kunststoffe v 7, p 185-7, 203-6.

Lists 86 patents with abstracts on substitutes for horn, ivory and fishbone.

Hydrocarbons

See also Petroleum

Pyrogenesis of hydrocarbons. 1916. E. L. Lomax and others. Inst Pet Tech J v 3, p 36-112.

Bibliography on p 90-112 is a "chronological index of the literature of paragenesis," contains more than 150 references from 1809 to 1916, also a chronological list of patents embracing about 137 references.

Pyrogenesis of hydrocarbons. 1917. E. Lawson Lomax. J Ind & Eng Chem v 9, p 879-900.

On p 899 there are 137 patents from 1860 to 1915. On p 900 there are 153 references to literature from 1809 to 1916.

Hydrochloric acid

Density of hydrochloric acid. 1921. J. Fitch King. J Phys Chem v 25, p 115-21.

There are 20 references on p 120-1.

Hydrogen

Occlusion of hydrogen by metallic elements and its relation to magnetic properties. 1919. Donald P. Smith. J Phys Chem v 23, p 186-202.

There are 38 references on p 200-2.

Hydrogen ion

Determination of hydrogen ions: an elementary treatise on the hydrogen electrode, indicator and supplementary methods with an indexed bibliography on applications. 1920. W. Mansfield Clark. Williams, Baltimore. 317p.

On p 239-302 there is a very extensive bibliography of more than 1200 references, arranged by author. These same references are classified at the end of the various chapters. The references to the applications are on p 219-38.

Determining hydrogen ion concentration for filter plant operation. 1923. W. D. Hatfield. Am Water Works Assoc J v 10, p 298-303.

There are 10 references on p 303.

Hydrogen ion concentration and water supply problems. 1922. F. Hannan. Am Water Works Assoc J v 9, p 39-45.

There are 42 references on p 44-5.

Properties and constitution of glues and gelatines. 1920. Robert H. Bogue. Chem & Met Eng v 23, p 197-203.

On p 201-3 there are about 160 references on the manufacture, physical properties, tests, chemical constitution and structure of glues and gelatines, together with colloidal considerations and the significance of the hydrogen ion.

Use of acids with alum in water purification and the importance of the hydrogen ion concentration. 1923. John R. Baylis. Am Water Works Assoc J v 10, p 365-92.

There are 18 references on p 392.

Hydrogen peroxide

Catalytic decomposition of hydrogen peroxide by ferric salts. 1921. Van L. Bohannon. J Phys Chem v 25, p 19-54.
Has 68 bibliographical footnotes.

Catalytic decomposition of hydrogen peroxide by sodium iodide in mixed solvents. 1920. Van L. Bohannon. J Phys Chem v 24, p 677-700.
Has 31 bibliographical footnotes.

Hydrogenation

Edelmetalle und verbindungen der seltenen erden als kontaktstoffe. 1919. S. Halen. Edel Erden & Erze v 1, p 51-3, 76-9, 89-91, 102-5, 111-15.

Abstracts the patent literature on catalytic agents in contact processes: sulphuric acid, hydrogenation of fats and oils, preparation of chlorine, catalytic ammonia, ammonia oxidation and production of organic compounds.

On the catalytic hydrogenation of cottonseed oil. 1921. Louis Kahlenberg and George J. Ritter. J Phys Chem v 25, p 89-114.
Has 38 bibliographical footnotes.

Hydrolysis

Fixation by hydrolysis? 1923. K. G. Falk and R. H. McKee. Chem & Met Eng v 29, p 224-5.

Has 21 bibliographical footnotes.

Hydrometallurgy

See also name of metal as: Copper

Bibliography of hydrometallurgy in 1914. 1915. Mining Wld v 42, p 12.
About 30 references on hydrometallurgy.

Die gewinnung des goldes aus erzen, kiesen u. dgl. auf dem wege der chlor-extraktion. 1921. Meren. Edel Erden & Erze v 2, p 49-51.

A review of the patent literature on the extraction of gold by solution.

Hydrometallurgical treatment of complex gold and silver ores. 1915. G. H. Clevenger. 2d Pan Am Sci Cong Pro v 8, p 448-62.

Has 48 bibliographical footnotes.

Hydrosulphites

Hydrosulfat. 1911. Karl Jellinek. Enke, Stuttgart. 2 v.

In v 2, p 201-24 there is a bibliography up to March 1, 1912 on the organic and inorganic chemistry of the hydrosulphites, patents on their preparation and their uses.

Hygiene, Industrial

Hygiène de l'industrie du fer; mines, hauts fourneaux, aciéries, fonderies, etc. 1909. Robert André. Paris.

On p 439-41 there are 40 references on industrial diseases and industrial hygiene, with special references to the iron and steel industries.

Hypochlorites

Bibliography of electrochemical chlorate and perchlorate formation. 1921. Faraday Soc Trans v 16, p 432-3.

Has 29 references on electrolytic hypochlorites and the electrolysis of alkali chlorides

Einführung in die technische elektrochemie. 1910. Paul Askenasy. Vieweg, Braunschweig. 2 v.

In v 2, p 100 there are 8 references on hypochlorites and electrolytic bleach.

I

Indigo

Enzyklopädie der küpenfarbstoffe; ihre literatur, darstellungswesen, zusammensetzung, eigenschaften in substanz und auf der faser. 1920. Hans Truttwin. Springer, Berlin. 868p.

On p 2-62 there is a bibliography of indigo from 1883 to 1919. More than 1500 references. Also on p 114-15, 409-10 and throughout the book there are bibliographical references. On p 553-791 is an exhaustive list of German and other patents with notes on vat dyes.

Indium

Index to the literature of indium, 1863 to 1903. 1904. Philip E. Browning. Smithsonian Misc Col. 15p.

Ink

Composition, properties and testing of printing inks. 1915. U S Bur Stand Circ 53. 35p.

On p 34-5 there are 23 references to books on oils, inks and pigments.

Inks; their composition and manufacture. 1916. C. A. Mitchell and T. C. Hepworth. Griffin, London. 266p.

There are 20 references on p 238. On p 239-57 there is a list of English patents from 1688 to 1914 on writing, copying and printing inks. 350 patents are listed.

Inks, their composition, manufacture and methods of testing. 1920. U S Bur Stand Circ 95. 24p.

There is a list of 22 references on p 24.

Insecticides

Adulteration of insect powder with powdered daisy flowers. 1919. R. C. Roark and G. L. Keenan. U S Dept Agr Bul 795. 12p.

Bibliography on p 11-12 has 40 references and dates from 1787 to 1918.

Determination of arsenic in insecticides. 1911. E. B. Holland. J Ind & Eng Chem v 3, p 168-71.

Contains 25 bibliographical footnotes.

Insect powder. 1920. C. C. McDonnell and others. U S Dept Agr Bul 824. 100p.

On p 83-100 there are 299 references on insecticides, arranged by authors.

Insulation (electric)

Die aus der patentliteratur bekannten isoliermassen für elektrische und andere zwecke ausser phenol formaldehydprodukten und korkmassen. 1913. O. Kausch. Kunststoffe v 3, p 361-3, 388-90, 410-12, 428-30, 449-51, 467-71.

A tabulation of patents with brief notes on insulating materials other than phenol-formaldehyde and cork compounds.

Elektrische isoliermassen. 1920. Kunststoffe v 10, p 161-4, 171-3, 177-80, 187-8.

A tabulation of patents with brief notes on electric insulation materials.

Insulation (electric)—Continued

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 288-306 there are about 250 annotated U.S. and foreign patents on molded electrical insulation. These represent the more important patents and are on both processes and compositions used.

Invar

See also Steel alloys

Invar and related nickel-steels. 1916. U S Bur Stand Circ 58. 68p.

On p 67-8 there are 42 references on nickel-steels.

Invertase

Use of invertase for sucrose estimation. 1921. T. Swann Harding. Sugar v 23, p 546-8.

On p 547-8 there are 12 references.

Iodine

Theories of occlusion; and the sorption of iodine by carbon. 1919. James W. McBain. Faraday Soc Trans v 14, p 202-12.

On p 211-12 there are 14 references.

Ionization

Electrical conductivity and ionization constants of the organic compounds; a bibliography of literature from 1889 to 1910 inclusive, including all important work before 1889 and corrected to the beginning of 1913. 1914. Heyward Scudder. London. 568p.

Gives numerical data.

Ions

See also Hydrogen ion

On the nature of the ordinary gaseous ion. 1917. L. B. Loeb. J Fr Inst v 184, p 775-804.

On p 803-4 there are 47 references dating from 1897 to 1917.

Iridium

Bibliography of the metals of the platinum group; platinum, palladium, iridium, rhodium, osmium, ruthenium, 1748-1917. 1919. James L. Howe and H. C. Holtz. U S Geol Sur Bul 694. 558p.

Contains about 4500 references.

Neueste arbeiten betreffend die platinbegleitmetalle, iridium, palladium, osmium, rhodium, und ruthenium. 1921. S. Halen. Edel Erden & Erze v 2, p 145-6, 156-7.

Outlines the latest literature on the platinum group metals and their compounds: iridium, palladium, osmium, rhodium and ruthenium.

Iron

Critical ranges A2 and A3 of pure iron. 1913. G. K. Burgess and J. J. Crowe. Am Inst Min Eng Trans v 47, p 702-3.

Also U S Bur Stand Bul v 10, p 315-70. About 80 references grouped under: expansion, thermoelectricity, crystallography, electrical resistance, magnetic measurements, calorimetry and thermal analysis.

Das eisen und seine verbindungen. 1919. Erich Mueller. Steinkopf, Dresden. 558p. Has bibliographical footnotes on iron and its compounds.

Determination of the points of allotropic changes of iron and its alloys by the measurement of the variations in the electric resistance. 1903. C. Boudouard.

Iron & Steel Inst J 1903 pt 1, p 299-377.

There is a bibliography of about 55 references from 1863 to 1902 on p 374-7. The references are arranged by author.

Experiments on the effect on mechanical and other properties of iron and its alloys produced by liquid air temperatures. 1905. R. A. Hadfield. Iron & Steel Inst J 1905, pt 1, p 147-219.

On p 206-10 there are 75 references on the effect of cold on metals especially iron and steel. References date from 1869 to 1905.

Handbuch der eisen- und stahlgiesserei. 1911. C. Geiger. Springer, Berlin. 2 v.

There are bibliographies at the ends of the chapters. The largest bibliographies take up: effect of elements on iron and steel, properties of iron, fuels, pyrometry, foundry practice and open hearth operation.

Neuere beobachtung bei geschlossenen enteisenungsanlagen. 1922. Hartung Klut. Gas & Wasserfach v 65, p. 527-31.

Gives 47 bibliographical footnotes on the purification of water in general and the removal of iron from water in particular.

Removal of iron from municipal water supplies. 1916. J. W. Schwab. Kansas U Eng Bul 7. 41p.

On p 38-41 there is a list of 109 references on iron removal from water, including references to American iron removal plants.

Simple, rapid and economical method of separating nickel and copper from iron. 1923. E. G. R. Ardagh and G. M. Broughall. Canad Chem & Met v 7, p 198-200.

On p 200 there are 200 references.

States of iron in nitric acid. 1921. Joseph G. Brown. J Phys Chem v 25, p 429-54.

On p 454 there are 16 references.

Iron alloys

See also Ferromanganese

Bibliography on the different forms and combinations of carbon with iron, including the iron alloys. 1914. P. H. Berggreen. Am Inst Min Eng Bul 90, p 913-27.

About 350 references from 1817 to 1912.

Grundzüge der siderologie. 1900. Hans v. Jüptner. Felix, Leipzig. 3 v.

In v 1, p 291-307 there are about 400 references on the chemical constitution and metallography of iron and constitution of slags. V 2, p 388-99, about 300 references on the effect of heat treating on constitution, physical properties of iron alloys. V 3, p 400-18 there are about 475 references on the metallurgy of iron and steel.

Magnetostriktion in iron carbon alloys. 1910. Herbert G. Dorsey. Phys Rev v 30, p 698-719.

On p 718-19 there are 62 references from 1847-1908.

Manganese, uses, preparation, mining costs and the production of ferro-alloys. 1920. C. M. Weld. U S Bur Mines Bul 173. 209p.

There are 21 references on manganese deposits on p 200-1 arranged by country.

Preparation and properties of pure iron alloys. 1923. W. L. Cheney. U S Bur Stand Sci Pa 463, v 18, p 609-35.

On p 635 there are 50 references dating from 1885 to 1920.

Über die entwicklung des zustandsdiagramms der eisen-kohlenstofflegierungen. 1909. F. Wüst-Aachen. Metallurgie v 6, p 512-31.

On p 529-31 there are about 50 references (chiefly foreign) on the history of iron-carbon diagrams and the physical chemistry of iron-carbon alloys.

Iron and steel

See also Steel

American malleable cast iron. 1922. H. A. Schwartz. Penton Pub Co, Cleveland. 416p.

On p 385-402 there is a selected bibliography of about 150 annotated references on the production, plant and equipment, foundry practice, metallography, properties and uses of malleable cast iron.

Bibliography of stainless steel and iron. 1922. Victor S. Polansky. Forging & Heat Treat v 8, p 560-5.

Has about 170 references with brief notes.

Bibliography of the manganese sulphides and silicates in iron and steel. 1911. Donald M. Levy. Iron & Steel Inst CSM v 3, p 279-81.

Has 48 references.

Changes in iron and steel below 400°C. 1923. F. C. Thompson and A. Goffey. Advance proof Iron and Steel Inst no 23 (May, 1923). 24p.

On p 26 there are 26 references.

Delayed crystallization in the carbon steels. 1923. A. F. Hallimond. Am Soc Steel Treat Trans v 3, p 931-43.

On p 942-3 there are 32 references.

Die herstellung des tempergusses und die theorie des glühfrischens nebst abriß über die anlage von tempergiessereien. 1919. Englebert Leber. Springer, Berlin. 312p.

Bibliography of 204 references on p 292-302 and treats of malleable iron and theory of cementation (malleabilizing).

Experimental researches on the cooling power of liquids on quenching velocities, and on the constituents troostite and austenite. 1908. Carl Benedicks. Iron & Steel Inst J v 77, pt 2, p 153-257. Also Rev de Met v 6, p 852-84.

Bibliography on p 256-7 has 25 references.

Grundzüge der siderologie. 1900. Hans v. Jüptner. Felix, Leipzig. 3 v.

In v 1, p 291-307 there are about 400 references on the chemical constitution and metallography of iron and constitution of slags. V 2, p 388-99, about 300 references on the effect of heat treating on constitution, physical properties of iron alloys. V 3, p 400-18 there are about 475 references on the metallurgy of iron and steel.

Handbuch der eisenhüttenkunde. ed 5. 1906. A. Ledebur. Felix, Leipzig. 3 v.

There are long bibliographies at the ends of the chapters. These bibliographies are on: fuels, refractories and furnaces, slags, chemistry of the metallurgy of iron, blast furnace, iron, steel, and rolling mills, etc.

Handbuch der eisen- und stahlgiesserei. 1911. C. Geiger. Springer, Berlin. 2 v.

There are bibliographies at the ends of the chapters. The largest bibliographies take up: effect of elements on iron and steel, properties of iron, fuels, pyrometry, foundry practice and open hearth operation.

Hygiène de l'industrie du fer; mines, hauts fourneaux, aciéries, fonderies, etc. 1909. Robert André. Paris.

On p 439-41 there are 40 references on industrial diseases and industrial hygiene, with special references to the iron and steel industries.

Il trattamento termico preliminare degli acciai dolci e semi duri per costruzioni meccaniche. 1918. Federico Giolitti. Hoepli, Milan. 621p.

Bibliography on p 599-602 has 25 references with notes on the metallography of iron and steel.

Iron and steel. 1910. Fredrick Hobart. Mineral Ind v 19, p 357-420.

Bibliography of iron on p 416-20 has 80 references on metallurgy of iron and steel and geology and mining of iron ores.

Iron and steel. 1919. Andrew McWilliam. Soc Chem Ind annual repts appl chem v 4, p 202-25.

Reviews the literature for the year 1919, and gives 61 bibliographical footnotes.

Iron and steel. 1920. J. H. Andrew. Soc Chem Ind annual repts appl chem v 5, p 220-248.

Reviews the literature on iron and steel for 1920 and gives 60 bibliographical footnotes.

Iron and steel. 1921. J. H. Andrew. Soc Chem Ind annual repts appl chem v 6, p 257-73.

Reviews the literature on iron and steel for 1921 and gives 43 bibliographical footnotes.

Iron making in Alabama. 1912. William B. Phillips. Alabama Geol Survey. 254p.

There are 50 references on p 10-13.

Iron ores, fuels and fluxes of Washington. 1922. Solon Shedd and others. Washington State Geol Div Bul 27. 160p.

On p 147-8 there is a bibliography of 24 references on the iron resources and the iron industry of Washington.

List of books relating to the iron and steel industry contained in the principal libraries in the west of Scotland. 1916. Issued by the West of Scotland Iron & Steel Inst. 27p.

More than 500 books are listed, classified by subject and provided with an author index.

Metallurgical theories conflict; complete bibliography shows that investigators attribute various effects to sulphur and phosphorus in steel and cast iron. 1920. Foundry v 48, p 467-8.

A list of about 65 references with full notes.

Metallurgy of iron and steel. 1911. Bradley Stoughton. McGraw-Hill, N.Y. 537p.

On p 505-18 there are 190 references with annotations.

Metallurgy of iron and steel. 1917. C. O. Bannister. Soc Chem Ind annual repts appl chem v 2, p 242-61.

Reviews the literature for 1917 and gives 103 bibliographical footnotes.

Metallurgy of iron and steel. 1918. C. O. Bannister. Soc Chem Ind annual repts appl chem v 3, p 209-23.

Reviews the literature for 1918 and gives 40 bibliographical footnotes.

Iron and steel—Continued

Notes on titanium and the cleansing effect of titanium on cast iron. 1912. Bradley Stoughton. *Am Inst Min Eng Trans* v 44, p 282-312.

On p 306-12 there are 130 references on titanium, its alloys and the effect of titanium on steel.

Principles of metallography. 1920. Robert S. Williams. McGraw-Hill, N.Y.

Bibliography on p 139-42 has a brief list of select books on metallography of iron and steel, alloys, and heat treatment of iron and steel. About 40 references with suggestive annotations.

Producer gas, its manufacture and use. 1918. C. S. Palmer. *Eng Soc West Pa Pro* v 34, p 347-53.

A bibliography of about 70 general references on producer gas and the iron and steel industry.

Progress of the metallurgy of iron and steel. 1914. Robert Hadfield. *Am Inst Min Eng Bul* v 89, p 840-3.

A chronological list of 62 papers on the metallurgy of iron and steel by the author; covers the period 1888 to 1914.

Rapport sur les progrès de la métallurgie depuis le commencement de l'année 1909 jusqu'à la fin de 1911. 1912. E. Heyn. *Rev de Met* v 9, p 934-82.

Contains bibliographies as follows: iron-carbon diagram p 939-40; allotropism and tempering p 949; effect of preliminary treatment on steel p 949-50; decarbonization and cementation p 951-2; castings, alloys, etc. p 953-68; physical and mechanical properties p 972-82. About 550 references in all.

Review of iron and steel literature for 1919. 1920. E. H. McClelland. *Blast Furnace & Steel Plant* v 8, p 8-10.

Gives about 40 annotated references to the most important literature on iron and steel published during 1919.

Review of iron and steel literature. 1921. E. H. McClelland. *Blast Furnace & Steel Plant* v 9, p 6-8.

Gives 63 annotated references to the most important literature on iron and steel published during 1920.

Review of the iron and steel literature for 1921. 1922. E. H. McClelland. *Blast Fur & Steel Pl* v 10, p 4-8.

Contains about 90 references.

Review of the iron and steel literature for 1922. 1923. E. H. McClelland. *Forging & Heat Treating* v 9, p 6-10.

Reviews the most important literature for 1922. Items are classified broadly and have brief notes.

Select list of books relating to iron and steel in commerce. 1907. A. P. C. Griffin. Library of Congress. Washington, D.C. 25p.

Covers the period from 1900 to 1907.

Study of the manganous sulphides and silicides in iron and steel. 1911. D. M. Levy. *Iron and Steel Inst CSM* v 3, p 279-81.

Has 48 references.

Viscosity of blast furnace slag and its relation to iron metallurgy including a description of a new method of measuring slag viscosity at high tempera-

tures. 1917. Alexander L. Feild. *Faraday Soc Trans* v 13, p 3-35.

Has more than 80 bibliographical footnotes.

Iron and steel—analysis

Analysis of steel works materials. 1902.

Harry Brearley and Fred Ibbotson. Longmans, Green, N.Y. 501p.

A bibliography of 200 references on iron and steel is given on p 305-15, and on p 353-495 there is a bibliography on the analysis of steel works materials which contains 1858 references.

Determination of sulphur in iron and steel. 1916. H. B. Pulsifer. *J Ind & Eng Chem* v 8, p 1115-23.

On p 1119-23 there is a bibliography of 285 references with notes dating from 1797 to 1916.

Determination of sulphur in iron and steel. 1922. H. B. Pulsifer. *Chem Pub Co. Easton, Pa.* 160p.

On p 53-155 there is a bibliography dating from 1797 to 1920 with extensive notes and abstracts giving data, results, methods, apparatus, etc.

Die quantitative eisenbestimmung im wasser. 1909. Klut. *Mitt Prüf Wasserversorg Berlin* v 12, no 2, p 174-82.

Has 24 bibliographical footnotes on the determination of iron in water.

Iron and steel—coating

Bibliography of patents covering unions of copper or its alloys with iron or steel by the aid of heat. 1913. *J Ind & Eng Chem* v 5, p 893-5.

Covers the period 1854 to date, and deals with metal coatings for steel, and copper clad iron and steel.

Metallic coatings for rust-proofing iron and steel. 1919. H. S. Rawdon and others. *Chem & Met Eng* v 20, p 591-2.

A bibliography covering the period from 1911 to 1918. Has 72 references on sherardizing, pickling, metal spraying, testing of coatings, etc.

Reading list on vitreous enameling on iron and steel. 1921. Clarence J. West. *Am Ceramic Soc J* v 4, p 47-64.

Covers the period from 1907 to 1920. There are about 350 references with descriptive annotations.

United States patents relating to enamels with special reference to enamels for iron and steel. 1920. C. J. West. *Am Ceramic Soc J* v 3, p 893-9.

More than 100 references covering the period from 1900 through 1920.

Iron and steel—corrosion

An experimental study of the corrosion of iron under different conditions. 1900. Carl Hambuechen. *Wisconsin U Bul Eng Ser* v 2, p 229-75.

Bibliography on p 274-5 has 20 references dating from 1871 to 1899.

Bibliography of the corrosion of iron and steel in cinder concrete. 1912. Morton C. Tuttle. *Eng N* v 67, p 755-6.

A list of 31 annotated references on rustless coatings; corrosion of steel reinforcements, chemistry of protection of steel against rust and fire by concrete and blast furnace slag.

Corrosion and preservation of iron and steel. 1910. A. S. Cushman and H. A. Gardner. McGraw-Hill, N.Y. 373p.

On p 301-63 there are 650 references on corrosion, theories, electrolytic corrosion,

corrosion by salt water, vapors, in boilers, pipe, and structural work. Metal protection by concrete, cement, lacquers, magnetic oxide, paint and paper. References have brief notes.

Corrosion of cast iron and its bearing upon the electrolytic theory of corrosion. 1917. E. A. Richardson and L. T. Richardson. *Am Electrochem Soc Trans* v 31, p 195-6.

A bibliography of 9 references.

Corrosion of fence wire. 1917. Oliver W. Storey. *Am Electrochem Soc Trans* v 32, p 284-311.

A list of 13 references is given on p 310-11.

Corrosion of iron and steel. 1910. Alfred Sang. McGraw-Hill, N.Y. 141p.

On p 103-5 there are 83 references mentioned in the text. On p 105-27 there is a bibliography of corrosion abstracted from the bibliography in the monthly bulletin of the Carnegie Library of Pittsburgh v 14, p 375-433. (1910).

Corrosion of iron and steel. 1911. J. N. Friend. Longmans, Green, London. 289p.

Contains numerous footnotes throughout the book to the original sources of information. The theories and all phases of the corrosion of iron and steel are taken up.

Corrosion of pipe in refrigerating systems. 1913. F. N. Speller. *Iron Age* v 92, p 1331.

A list of 8 references dating from 1909 to 1912 on the comparative corrosion of wrought iron and steel used in ammonia condensers.

Effects of electrolysis on engineering structures. 1915. A. F. Ganz. Stevens Ind v 32, p 316-47.

On p 343-5 there are 22 references on electrolytic corrosion.

Influence of copper, manganese and chromium and some of their combinations on the corrosion of iron and steel. 1920. E. A. Richardson and L. T. Richardson. *Am Electrochem Soc Trans* v 38, p 221-33.

On p 233 there are 11 references.

Influence of enclosed slag on the corrosion of wrought iron. 1920. L. T. Richardson. *Am Electrochem Soc Trans* v 37, p 533-4.

Gives 12 references.

Structural iron and steel. 1917. *Am Inst Arch J* v 5, p 43-5.

About 40 references including corrosion and preservation of iron and steel.

Iron and steel—electrometallurgy

Bibliographie über die darstellung des roheisens im elektrischen ofen. 1921. H. Dickman. *Stahleisen*, Düsseldorf. Contains 191 references arranged chronologically from 1899 to 1920.

Electric furnaces for making iron and steel. 1914. D. A. Lyon and R. L. Keeney. *U S Bur Mines Bul* 67. 142p.

Bibliography of 58 references on p 134-6.

Electric furnace in the iron industry: a bibliography. 1922. Lyman C. Judson and H. P. Martin. *Am Electrochem Soc Trans* preprint April 27, 1922.

A list of 46 references with descriptive notes from 1913 to 1922. Includes material on the production of iron for foundry use.

Electrothermal methods of iron and steel production. 1913. John B. C. Kershaw. Constable, London. 239p.

On p 188-223 there is a list of electric furnaces for iron and steel production in operation or under construction in 1912, and a list of English and foreign patents relating to electric furnaces granted from 1898 to 1911, and abstracts and reprints of early patents relating to electric furnaces.

Geschichte des elektroisens mit besonderer berücksichtigung der zu seiner erzeugung bestimmten elektrischen öfen. 1914. Oswald Meyer. Springer, Berlin. 183p.

On p 183 there is a list of 30 references dealing with the electric furnace and the steel industry.

I processi termoelettrici della siderurgia moderna: forni elettrici. 1914. C. F. Bonini. Hoepli, Milan. 607p.

On p 593-4 there are 20 references to textbooks dealing with the electric furnace and metallurgy of iron.

Iron, Electrolytic

Magnetic and other properties of electrolytic iron melted in vacuo. 1914. T. D. Yensen. *Ill U Eng Expt Sta Bul* 72. 71p.

There are 70 references on p 70-1 on the magnetic and related properties in general, magnetic properties in intense fields, and the effect of temperature on the magnetic properties.

Magnetischen eigenschaften von elektrolyteisen. 1921. E. Gumlich. *Stahl & Eisen* v 41, p 1249-54.

Has 12 bibliographical footnotes on the magnetic properties of electrolytic iron.

On the electrodeposition of iron. 1922. W. E. Hughes. Great Britain dept of science and industrial research bul 6. 50p.

On p 44-50 there is a bibliography of 120 references on electrodeposition and related phenomena, and the properties of electrolytic iron.

Preparation of pure iron and iron-carbon alloys. 1916. J. R. Cain and others. *U S Bur Stand Sci Pa* 266.

On p 26 there are 21 references on the preparation of electrolytic iron. Also contains numerous bibliographical footnotes.

Recent progress in electrolytic iron. 1916. Oliver W. Storey. *Am Electrochem Soc Trans* v 29, p 357-67.

On p 366-7 there are 15 references from 1908 to 1914 on electrolytic iron.

Iron ores

Briquetting of iron ores. 1917. Guy Barrett and T. B. Rogerson. *Iron & Steel Inst J* v 96, pt 2, p 7-60.

Bibliography on p 43-8 on recent literature of briquetting of iron ores from 1910 to 1917. Has 111 references.

Isoprene

Preparation and polymerization of butadiene, isoprene and their homologues. 1912. W. H. Perkin. *Soc Chem Ind J* v 31, p 616-22. Also *Kunststoffe* v 2, p 304-8.

About 30 references are given in the text.

Isotopes

Les isotopes. 1923. A. Damiens. Gauthier, Paris. 115p.

Has 157 bibliographical footnotes on isotopes.

Ivory

Ersatzmittel für elfenbein. 1916. E. J. Fischer. *Kunststoffe v 6*, p 101-3, 116-19.

On p 118-19 there are 34 patents with brief notes on substitutes for ivory.

Horn, elfenbein und fischbeinersatz. 1917. F. Marschalk. *Kunststoffe v 7*, p 185-7, 203-6.

Lists 86 patents with abstracts on substitutes for horn, ivory and fishbone.

J**J-acid**

Dyes derived from beta-oxynaphthoic acid and from J-acid with reference to the Chemical Foundation patents. 1921. A. Willard Joyce. *J Ind & Eng Chem v 13*, p 946-8.

25 U.S. patents are given in the footnotes.

Japans

Analysis of paint vehicles, japans and varnishes. 1920. C. D. Holley. Wiley, N.Y. 203p.

On p 194-5 there are 24 references.

Jet

Jet. 1923. W. M. Myers. U S Bur Mines rept invest no 2452. 4p.

There are 10 references on p 4.

Jordis, Eduard

Jordis arbeiten. 1918. M. K. Hoffmann. *Kolloid Zeit v 23*, p 49-65.

Gives a list of the articles written by Eduard Jordis.

K**Kaolin**

Notes on the use of sulphuric acid in the sedimentation of kaolins. 1917. H. G. Schurecht. *Am Ceramic Soc Trans v 19*, p 130-45.

Has 11 bibliographical footnotes.

Kerosene

Flashpoints and burning points of gasoline-kerosene mixtures. 1919. J. T. Robson and J. R. Withrow. *Chem & Met Eng v 21*, p 245-52.

On p 252 is a brief bibliography of 28 references on the adulteration of kerosene with gasoline, and the effect of gasoline on the flash and ignition points of kerosene.

Preparation of gasoline and kerosene from heavier hydrocarbons. 1915. Benjamin T. Brooks and others. *J Ind & Eng Chem v 7*, p 180-5.

Has 35 bibliographical footnotes.

Kraft paper. See Paper, kraft

L**Laboratory apparatus**

Study of the quality of platinum ware. 1915. George K. Burgess and P. D. Sale. *U S Bur Stand Bul v 12*, p 289-316 (Sci Pa 254).

On p 314-16 there is a selected bibliography of 17 references with abstracts on the suitability and wearing qualities of platinum for use in laboratory work.

Laboratory glassware

Étude comparative des verres de laboratoire préparés en France, en Angleterre, en Allemagne et en Autriche. 1923. P. Nicolardot. *Chimie & Ind v 9*, p 233-44.

A comparative study of laboratory glassware made in France, England, Germany and Austria. Has 32 bibliographical footnotes.

Laboratories

Chemical and chemical engineering laboratories. 1920. C. J. West. *J Ind & Eng Chem v 12*, p 295-6. Also *Am Arch v 117*, p 295-6.

Has 62 references to articles describing the design and equipment of chemical and chemical engineering laboratories.

Lacquers

Herstellung von lacken aller art ausschliesslich der zelluloidlacke. 1911. *Kunststoffe v 1*, p 361-4, 391-3, 411-13.

Has abstracts of patent literature on the manufacture of all kinds of lacquers other than celluloid lacquers.

Herstellung von zelluloidlacken. 1911. Max Schall. *Kunststoffe v 1*, p 201-4.

Abstracts from the patent literature on the manufacture of celluloid lacquers.

Herstellung von zelluloidlacken. 1916. Max Schall. *Kunststoffe v 6*, p 113-15.

Abstracts of about 15 patents on the preparation of celluloid lacquers.

Neuere ersatzstoffe und präparate der lackbranche. 1912. Max Bottlet. *Kunststoffe v 2*, p 9-12.

Has 16 bibliographical footnotes on substitutes for lacquers.

Neuere lösungsmittel für harze und lacke, zelluloseester, kautschuk, usw. 1916. E. J. Fischer. *Kunststoffe v 6*, p 244-6, 259-61.

A tabulation of patents with brief notes on solvents for lacquer, cellulose ester, rubber, etc.

Neuerungen auf dem gebiete der zelluloseesterlacke. 1922. Mehren. *Kunststoffe v 12*, p 99-100.

Abstracts of patents on lacquers made of cellulose esters.

Lactose

Bacteria fermenting lactose and their significance in water analysis. 1921. Max Levine. *Iowa State Col Agr & Mech Arts v 20*, no 31. 127p.

On p 119-27 there are 205 references on water bacteriology, bacterium coli and lactose ferments.

Lampblack

See also Carbon black

Lampblack: a bibliography. 1919. Carnegie Library, Pittsburgh mo bul v 24, p 194-9.

Has 60 references including U.S., German and British patents.

Lanthanum

Indexes to the literature of cerium and lanthanum. 1895. W. H. Magee. *Smithsonian Misc Col.* 43p.

Covers the period from 1751 to 1894.

Wave lengths longer than 5500A in the arc spectre of yttrium, lanthanum and cerium, and the preparation of pure rare earth elements. 1921. C. C. Kiess

and others. U S Bur Stand Sci Pa 421, v 17, p 317-51.
Contains about 35 bibliographical footnotes.

Leach, Albert Ernest

Albert Ernest Leach. 1910. *J Ind & Eng Chem* v 2, p 448-50.
On p 450 there is a partial list of articles written by Leach.

Lead

Alloys of lead, tin and bismuth. 1902. E. S. Shepherd. *J Phys Chem* v 6, p 519-53.
On p 552-3 there are 42 references.

Carbon and its allies. 1917. Robert Martin Caven. Griffin, London. 468p.

Has numerous bibliographical footnotes on carbon, silicon, germanium, thorium, zirconium, titanium, tin, lead, and their compounds. A bibliography of tin alloys is given on p 339-40.

Electrodeposition of lead. 1913. Frank C. Mathers. *Am Electrochem Soc Trans* v 23, p 153-92.

Consists of abstracts and patents on the literature of the electrolysis of lead.

Electrolytic corrosion of some metals. 1911. G. R. White. *J Phys Chem* v 15, p 723-92.

About 60 footnote references dealing with the electrolytic corrosion of zinc, copper, tin, lead, nickel and cadmium.

Important factors in blast roasting. 1912. H. B. Pulsifer. *Met & Chem Eng* v 10, p 154.

About 60 references including 15 patents on blast roasting especially as applied to the smelting of lead and copper ores.

Lead refining by electrolysis. 1908. A. G. Betts. Wiley, N.Y. 394p.

Bibliography of about 30 references mostly patents, on p 309-11.

Metallurgy of lead. 1910. Henry F. Collins. Griffin, London. 538p.

Bibliographical footnotes are scattered throughout the text.

Metallurgy of lead. 1918. Heinrich O. Hofman. McGraw-Hill, N.Y. 664p.

Lists 10 of the leading publications dealing with lead and lead silver. Has numerous bibliographic footnotes throughout the entire book forming a very valuable bibliography.

Leather

Anthrax prophylaxis in the leather industry. 1922. *Am Leather Chem Assoc J* v 17, p 55-65.

On p 65 there are 9 references.

Application of dyestuffs to textiles, paper, leather and other materials. 1920. J. M. Matthews. Wiley, N.Y. 768p.

Bibliography on p 733-50 has 500 references.

Die herstellung von kunstleder. 1919. M. Schall. *Kunststoffe* v 9, p 141-3, 159-61, 187-90, 201-4, 218-20, 281-4, 300-2.

A list of 281 patents with brief notes on the manufacture of artificial leather.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 408 there is a list of 30 books dating from 1885 to 1913 on leather, gelatine and glue.

Iron tannage. 1921. Daniel D. Jackson and Te Pang Hou. *Am Leather Chem Assoc J* v 16, p 229-59.

On p 248-50 there are 46 references to books and periodicals dealing with the leather industry.

Leather and glue. 1916. Joseph T. Wood. *Soc Chem Ind annual repts appl chem* v 1, p 226-42.

Has 60 footnote references for the year 1916, with abstracts in the text.

Leather and glue. 1917. Joseph Wood. *Soc Chem Ind annual repts appl chem* v 2, p 353-74.

Has 77 footnote references for 1917 with abstracts in the text.

Leather and glue. 1918. F. C. Thompson. *Soc Chem Ind annual repts appl chem* v 3, p 321-41.

Reviews the literature for 1918, and gives 72 bibliographical footnotes.

Leather and glue. 1919. F. C. Thompson. *Soc Chem Ind annual repts appl chem* v 4, p 347-64.

Abstracts the literature for 1919 and gives 82 bibliographical footnotes.

Leather and glue. 1920. F. C. Thompson. *Soc Chem Ind annual repts appl chem* v 5, p 351-69.

Reviews the literature for 1920 and gives 90 bibliographical footnotes.

Leather and glue. 1921. D. Woodroffe. *Soc Chem Ind annual repts appl chem* v 6, p 379-402.

Has 113 footnote references for 1921 with abstracts in the text.

Neuesten patentierten verfahren zur herstellung von kunstleder. 1914. Oskar Kausch. *Kunststoffe* v 4, p 87-9.

A tabulation of patents with brief notes on the manufacture of artificial leather.

Review of analytical work applicable to leather and tanning: 1920 to 1921. 1922. F. P. Vietch and R. W. Frey. *J Ind & Eng Chem* v 14, p 825-9.

Bibliography of 87 references on p 828-9 covers the period 1920 to 1922.

Verfahren zur herstellung von kunstleder. 1911. Oscar Kausch. *Kunststoffe* v 1, p 1-3, 25-8, 51-4.

Abstracts the patent literature on artificial leather.

Ledebur, Adolf

List of papers by Dr. A. Ledebur relating to iron and carbon. 1914. Robert Hadfield. *Am Inst Min Eng Bul* v 89, p 839.

Also *Faraday Soc Trans* v 10, p 28. Has 12 references dating from 1886 to 1897.

Leucite

La production de la potasse et de l'alumine à partir des leucites italiennes au moyen du chlore. 1922. U. Pomilio. *Chimie & Ind* v 7, p 425-37.

On p 437 there are 48 references on the production of potash and aluminum from leucites.

Leuscope

New study of the leuscope and its application to pyrometry. 1920. Irwin G. Priest. *Optical Soc Am J* v 4, p 448-95.

On p 493-4 there is a complete bibliography of the leuscope. Dates from 1863 to 1888 and has 10 references.

Levulose

Sources of the rare sugars. Levulose. 1923. T. Swann Harding. Sugar v 25, p 406-8.
There are 25 references on p 408.

Lime

Cement, lime and gypsum, in general. 1917. Am Inst Arch J v 5, p 576.
Has 20 references.

Cements, limes and plasters. 1921. R. K. Hursh. J Ind & Eng Chem v 13, p 477-8.
Describes 8 books that deal with cements, limes and plasters.

Lime and hydrated lime. 1917. Am Inst Arch J v 5, p 78-80.
Has about 40 references.

Lime and hydrated lime. 1918. D. K. Boyd. Am Inst Arch J v 6, p 97-8.
Has 40 references.

Reading list on lime. 1921. C. J. West. Special Libraries v 12, p 71-87.

Contains about 600 references on the properties, analysis, manufacture and uses of lime and limestone, including its use in agriculture and cement. Covers the period 1900 to 1921.

Silica and the silicates. 1921. James A. Audley. Baillière, London. 374p.

Bibliographies are at the ends of the various sections, more than 100 references in all. Silica, p 45; silicates, p 122; lime, cement and mortar, p 167; ceramic industries, p 272; glass and enamels, p 334; and miscellaneous applications, p 357.

Linoleum

Herstellung von linoleum und wachstuch nach der patentliteratur. 1917. M. Schall. Kunststoffe v 7, p 41-3.

Abstracts 20 patents on the manufacture of linoleum and oilcloth.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 150-2 there are about 30 annotated U.S. and foreign patents on plastics, adhesives, cork, linoleum and related compositions.

Tabelle über die patentierten verfahren und vorrichtungen zur herstellung von linoleum. 1914. Oskar Kausch. Kunststoffe v 4, p 145-7, 188-90, 229-31, 250-3.

A tabulation of patents with brief notes on methods and apparatus for the manufacture of linoleum.

Verfahren und vorrichtungen zur herstellung von linoleumersatz und ähnlichen stoffen. 1914. O. Kausch. Kunststoffe v 4, p 351-4.

A list of patents with notes on methods and apparatus for the manufacture of substitutes for linoleum.

Zur geschichte des linoleums. 1911. Felix Fritz. Kunststoffe v 1, p 12-14.

There are 19 patents given in footnotes on linoleum.

Linseed oil

Chemistry of linseed oil. 1917. J. Newton Friend. Van Nostrand, N.Y. 93p.

On p 83-93 are gathered the references and sources of information upon which the book is based.

Leinölersatzmittel. 1913. A. v. Unruh. Kunststoffe v 3, p 1-4, 22-4.

Gives 61 bibliographical footnotes on linseed oil substitutes.

Liquids

Anisotropic liquids. 1921. J. S. Lingen. J Fr Inst v 191, p 651-77.

Bibliography on p 674-7 has 52 references with notes.

Conducibilità fotoelettrica dei liquidi cattivi conduttori. 1922. S. Timpanaro. Nuovo Cimento v 24, p 203-19.

On p 218-19 there are 34 references on photo-electric conductivity of liquids.

Die dielektrische festigkeit von flüssigkeiten und festen körpern. 1922. A. Günther-Schulze. Jahrb der Radioaktivität u. Elektronik v 19, p 92-112.

On p 111-12 there is a bibliography of 24 references on dielectric strength of liquids dating from 1878 to 1914.

Heat transfer by conduction and convection. Liquids flowing through pipes. 1922. W. H. McAdams and T. H. Frost. J Ind & Eng Chem v 14, p 1101-5.

Bibliography of 16 references is given on p 1104-5.

La tension de vapeur des mélanges de liquides: l'azéotropisme. 1918. Maurice Lecat. Lamartin, Brussels.

Bibliography on p 217-66 has more than 700 references arranged by author as well as chronologically from 1813 to 1917. Deals with vapor pressure and boiling points of mixture of liquids, fractional distillation, phase rule. A very exhaustive bibliography referring to American, English, French, German, etc. literature.

On the existence of compounds in binary liquid mixtures. 1914. J. Howard Mathews and Raymond D. Cooke. J Phys Chem v 18, p 574-85.

Bibliography of 221 references on the viscosity of pure liquids and all the properties of liquid mixtures up to Jan 1, 1914.

Solubility of gases in liquids. 1922. B. S. Neuhauser. J Phys Chem v 26, p 553-62.

Has 22 bibliographical footnotes.

Sur la miscibilité partielle des couples liquides. 1922. R. Dubrisay. Annales de Chimie v 17, p 222-56.

There are 30 references on p 256 on the miscibility of liquids.

Vapor pressure of gases in the presence of liquids. 1914. F. H. Campbell. Faraday Soc Trans v 10, p 197-206.

Has 28 bibliographical footnotes.

Lithopone

Zur kenntnis der lithopone. 1923. E. Maass and R. Kempf. Zeit f angew Chem v 36, p 293-7.

Has 51 bibliographical footnotes on lithopone.

Low temperature distillation. See Coal distillation

Lubricating oils. See Oils, lubricating

Luminescence

Selected topics in the field of luminescence. 1923. Ernest Merritt and others. National Research Council Bul v 5, no 30. 126p.

On p 79-126 there are 1329 references dating from 1906 to 1922.

M

Magnesia

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 17-29 there are about 150 U.S. and foreign patents on ceramics, magnesia and other refractories with notes.

Magnesia cement

Physical properties of magnesia cement and magnesia cement compounds. 1917. R. J. Roark. Wisconsin U Eng Expt Sta Bul v 8, no 5, p 247-332.

Bibliography of 25 references on p 326-7.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar materials, slag cement, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Magnesite

Industrial readjustments of certain mineral industries affected by the war. 1920. U S Tariff Comm, Tariff Information series no 21. 320p.

On p 118-19 there are 22 references on magnesite.

Magnesite deposits of Washington. 1921. G. E. Whitwell and E. N. Patty. Washington Geol Sur Bul 25.

Bibliography on p 180-9 has 160 references from 1882 to 1920 and deals with the preparation and uses of magnesite.

Magnesium

Electric furnace: its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Organometallic compounds of zinc and magnesium. 1913. Henry Wren. Van Nostrand, N.Y. 100p.

A bibliography of 201 references is given on p 93-8.

Some recent applications of magnesium in synthetic organic chemistry. 1922. H. Hepworth. Soc Chem Ind J v 41, p 7T-11T.

A valuable and comprehensive review of the recent applications of the Grignard reagents with numerous references.

Magnetism

Electron theory of magnetism. 1912. E. H. Williams. Ill U Eng Expt Sta Bul 62, 64p.

Contains 21 references without notes, arranged by author, on the theory of magnetism and the magnetization of minerals.

Magnetostriction

Magnetostriction in iron carbon alloys. 1910. Herbert G. Dorsey. Phys Rev v 30, p 668-710.

On p 718-19 there are 62 references from 1847 to 1908.

Maltose

History of maltose, its discovery and methods of preparation. 1923. T. Swann Harding. Sugar v 25, p 350-2.

On p 352 there are 36 references.

Manganese

Abstracts from the literature on the treatment of manganese-silver ores. 1923. Galen H. Clevenger and Alphonso Cornejo. U S Bur Mines repts invest no 2458. 14p.

Has 37 references with extensive abstracts. Covers the period 1867 to 1922.

Bibliography of the analytical chemistry of manganese, 1785 to 1900. 1902. Henry P. Talbot and J. W. Brown. Smithsonian Inst, Washington, D.C. 124p.

Between 700 and 800 references with extensive descriptive notes; has subject and author index.

Bibliography of the manganese sulphides and silicates in iron and steel. 1911.

Donald M. Levy. Iron & Steel Inst CSM v 3, p 270-81.

Has 48 references.

Bibliography of the occurrence, geology and mining of manganese with some references on its metallurgy and uses. 1919. H. L. Wheeler. Econ Geol v 14, p 245-61.

Has about 240 references arranged by state and country with sections on geology, mining, ore dressing, metallurgy and uses.

Colorimetric determination of manganese by oxidation with periodate. 1917. H. H. Willard and L. T. Greathouse. Am Chem Soc J v 39, p 2366-77.

On p 2376-7 there is a bibliography of 34 references on the colorimetric determination of manganese.

Industrial readjustments of certain mineral industries affected by the war. 1920. U S Tariff Comm, Tariff Information series no 21. 320p.

On p 148-9 there are 20 references on manganese.

Influence of copper, manganese and chromium and some of their combinations on the corrosion of iron and steel. 1920. E. A. Richardson and L. T. Richardson. Am Electrochem Soc Trans v 38, p 221-33.

On p 233 there are 11 references.

Manganese a neglected remedy. 1921. L. J. Boyd. Am Inst Homeopathy J v 14, p 409-15.

Contains a bibliography.

Manganese deposits in the United States with sections on foreign deposits, chemistry and uses. 1910. Edmund C. Harder. U S Geol Sur Bul 427. 298p.

There is a bibliography of 158 references on p 284-8.

Manganese ores. 1919. Alfred H. Curtis. Great Britain Imperial Inst, London. 118p.

"References to the literature on manganese" on p 112-18. Has 140 references from 1900 to 1918.

Manganese, uses, preparation, mining costs and the production of ferro-alloys. 1920. C. M. Weld. U S Bur Mines Bul 173. 209p.

There are 21 references on manganese deposits on p 200-1 arranged by country.

Manganese—Continued

Nachweis und bestimmung von mangan im trinkwasser. 1909. Klut. Mitt Prüf Wasserversorg Berlin v 12, p 183-94.

Has 56 bibliographical footnotes on the determination of manganese in drinking water.

On the preparation of colloidal manganese dioxide. 1921. Eustace J. Cuy. J Phys Chem v 25, p 415-17.

On p 417 there are 8 references.

Properties of aluminum-manganese bronzes. 1912. E. Take. Faraday Soc Trans v 8, p 169-80.

About 45 bibliographical footnotes.

Research with regard to the non-magnetic and magnetic conditions of manganese steel. 1914. B. Hopkinson and Robert Hadfield. Am Inst Min Eng Trans v 50, p 494-6.

Has 50 references from 1875 to 1914.

Study of the manganous sulphides and silicides in iron and steel. 1911. D. M. Levy. Iron & Steel Inst CSM v 3, p 279-81.

Has 48 references.

The halogens and their allies. 1919. G. Martin and E. A. Dancaster.

A number of bibliographical footnotes on manganese and its compounds are given on p 256-321.

Marc, Robert

Robert Marc. 1918. Kolloid Zeit v 18, p 81-5.

Lists 44 publications written by Marc.

Margarine

Margarine. 1920. William Clayton. Longmans, Green, London. 187p.

Bibliography on p 144-79: oils and fats used in the manufacture of margarine, p 144-50; edible hydrogenated oils, p 150-1; examination of milk pasteurization, sterilization and inoculation, p 151-6; artificial milk, p 156; theory of emulsification, butter, renovated butter, p 157-62; analysis of butter and margarine, p 163-72; deterioration of butter and margarine in storage, use of preservatives, p 173-6; nutritional chemistry and vitamins, p 176-9. In all about 700 references.

Meat

Chemical technology of the frozen meat industry. 1921. New Zealand J Sci Tech v 4, p 97-107, 155-64.

Cites 57 references.

Medicinal chemicals

Fine chemicals, medicinal substances, and essential oils. 1916. Frank Lee Pyman. Soc Chem Ind annual repts appl chem v 1, p 271-97.

Has 186 footnote references for 1916. Text contains abstracts of these references.

Fine chemicals, medicinal substances and essential oils. 1917. Frank L. Pyman. Soc Chem Ind annual repts appl chem v 2, p 468-94.

Has 154 bibliographical footnotes for the year 1917. Text has abstracts of these references.

Fine chemicals, medicinal substances and essential oils. 1918. George Barger. Soc Chem Ind annual repts appl chem v 3, p 430-56.

Has 180 bibliographical footnotes to the literature for 1918 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1919. T. A. Henry. Soc Chem Ind annual repts appl chem v 4, p 489-507.

Has 129 bibliographical footnotes to the literature for 1919 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1920. T. A. Henry. Soc Chem Ind annual repts appl chem v 5, p 486-504.

Has 107 bibliographical footnotes to the literature for 1920 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1921. Harold King. Soc Chem Ind annual repts appl chem v 6, p 517-38.

Has 167 footnote references for the year 1921. Text contains abstracts of these references.

Melezitose

History of melezitose, its discovery and methods of preparation. 1923. T. Swann Harding. Sugar v 25, p 240-1.

There are 22 references on p 241.

Mendeleeff, Dmitri S.

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeleeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Remsen, and Fischer.

Mercerizing

Bibliography of the cotton manufacture. 1909. C. J. H. Woodbury. Boston Nat Assoc Cotton Mfgs Trans no 86 (April) p 339-549.

Contains 5074 references, classified and grouped as follows: 1. cotton manufacture, carding, spinning, weaving, etc.; 2. finishing, bleaching, dyeing, mercerizing, etc.; 3. engineering and machinery; 4. history and economics; 5. agricultural side of cotton; 6. publications relating to textiles.

Bibliography of the cotton manufacture. 1910. C. J. H. Woodbury. Boston Nat Assoc Cotton Mfgs Trans no 88 (April) p 364-415.

Appendix to the preceding bibliography. Contains 1223 supplementary references classified in the same manner.

Mercerisierverfahren. 1920. G. Wilhelm. Kunststoffe v 10, p 105-6, 115-18.

A list of 86 patents with brief notes on mercerizing.

Mercury

Bibliography of the literature of organic mercurials. 1919. F. C. Whitmore. J Ind & Eng Chem v 11, p 1083-91.

Approximately 850 references to the literature of the organic compounds of mercury, arranged according to the classes of compounds.

Determination of mercury. 1920. C. M. Bouton and L. H. Duschak. U S Bur Mines Tech Pa 227. 44p.

On p 24-38 there are more than 120 references with notes on various methods of determining mercury.

Die physikalischen eigenschaften des quecksilbers. 1921. Alfred Schulze. Zeit f Metallkunde v 13, p 105-13.

Contains 29 bibliographical footnotes on the physical properties of mercury and their determination.

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver and platinum in dyes and paints.

Fortschritte auf dem gebiete der erforschung des quecksilbers. 1921. Mehren. *Edel Erden & Erze* v 2, p 89-91, 97-9.

Reviews the literature of mercury from 1917 to 1920.

Industrial readjustments of certain mineral industries affected by the war. 1920. U S Tariff Comm, Tariff Information series no 21, 320p.

On p 269-76 there are about 170 references on mercury.

Organic compounds of mercury. 1921. Frank C. Whitmore. *Chem Cat Co*, N.Y. 397p.

Bibliography of biological and pharmacological work with organic mercury compounds on p 371-2; supplementary bibliographical lists are given on p 373-7, patents on organic mercury compounds on p 378-80. There are also several hundred bibliographical footnotes throughout the text.

Quicksilver resources of California with a section on metallurgy and ore dressing. 1918. Walter W. Bradley. *California State Min Bur* vol 78, 389p.

Bibliography on p 354-62 has more than 300 references on assaying, chemistry, ore dressing, metallurgy, etc. of mercury, and geology, mining, etc.

Recent development in the chemistry of organic mercury compounds. 1923. F. C. Whitmore. *Ind & Eng Chem* v 15, p 417-19.

There are 37 references on p 419.

Mesothorium

Concentration of mesothorium and radium by fractional crystallization. 1920. John L. Niernan. *J Phys Chem* v 24, p 192-200.

There are 12 references on p 200.

Die neuesten arbeiten über thorium, thoriumverbindungen, mesothorium, radiothorium usw. 1921. S. Halen. *Edel Erden & Erze* v 2, p 83-5.

Reviews the literature on thorium and its compounds, mesothorium, radiothorium, etc., for the period 1917 to 1920.

Mesothorium. 1922. Herman Schlundt. U S Bur Mines Tech Pa 265. 57p.

On p 54-6 there are 56 references on the chemistry and separation of mesothorium.

Metal coating

Bibliography of metal corrosion and protection. 1915. *Eng Soc W Pa Pro* v 31, p 193-222.

A supplement to the bibliography of metal corrosion and protection published in the monthly bulletin of the Carnegie Library of Pittsburgh, 1909, v 14, p 375-433, and covers the period from 1909 to 1915.

Bibliography of patents covering unions of copper or its alloys with iron or steel by the aid of heat. 1913. *J Ind & Eng Chem* v 5, p 893-5.

Covers the period 1854 to date, and deals with metal coatings for steel, and copper clad iron and steel.

Bibliography of the corrosion of iron and steel in cinder concrete. 1912. Morton C. Tuttle. *Eng N v* 67, p 755-6.

A list of 31 annotated references on rustless coatings; corrosion of steel reinforcements, chemistry of protection of steel against rust and fire by concrete and blast furnace slag.

Bibliography of the corrosion of metals and its prevention. 1923. Nathan Van Patten. *Marblehead, Mass.*

Contains 2025 references with brief notes and subject index.

Bibliography on metal protection and corrosion. 1909. Pittsburgh Carnegie Library mo bul v 14, p 375-433. Also *Rev de Met extr* v 11, p 267-96.

About 600 references on corrosion, electrolytic corrosion, corrosion by vapors, salt water, boiler corrosion, pipe and structure corrosion, protection by cement, lacquers, galvanizing, paint, paper, magnetic oxides, etc.

Electrolytic methods for preventing corrosion. 1913. W. W. H. Gee. *Faraday Soc Trans* v 9, p 115-24.

Has 12 bibliographical footnotes.

La protection des métaux contre les agents atmosphériques et la chaleur. 1922. R. Levatel. *Outilsage* v 6, p 412-13.

Bibliography on p 413 has 28 references on calorizing, coating with aluminum and protective coatings for metals.

Metal products and devices in buildings. 1917. *Am Inst Arch J* v 5, p 571-5.

About 150 references on metals and metal products in general, corrosion of metals, protective coatings, pipes, wire, metal trim, chutes, fixtures, etc.

Metallic coatings for rust-proofing iron and steel. 1919. H. S. Rawdon and others. *Chem & Met Eng* v 20, p 591-2.

A bibliography covering the period from 1911 to 1918. Has 18 references on sherardizing, pickling, metal spraying, testing of coatings, etc.

Protective coatings for dryer cars. 1915. M. C. Booze. *Am Ceramic Soc Trans* v 17, p 727-44.

Has 44 bibliographical footnotes.

Protective metallic coatings for rustproofing iron and steel. 1919. U S Bur Stand Circ 80, 34p.

On p 32-4 there are 75 references on the nature of corrosion, microstructure, methods of coating and tests of the methods

Metal protection. See Metal coating

Metallography

American malleable cast iron. 1922. H. A. Schwartz. *Penton Pub Co*, Cleveland, 416p.

On p 385-402 there is a selected bibliography of about 150 annotated references on the production, plant and equipment, foundry practice, metallography, properties and uses of malleable cast iron.

Copper. 1922. U S Bur Stand Circ 73. ed 2. 108p.

Bibliography on p 102-8 has 303 references on the metallography, physical properties, working, equilibrium diagrams of binary alloys, corrosion and diseases of copper.

Crystallization of metals. 1922. N. T. Belaiew. *Univ London press*, London. 143p.

Gives bibliographies at the ends of the various chapters.

Metallography—Continued

Elements of metallography. 1909. Rudolf Ruer; tr. by C. H. Metherson. Wiley, N.Y. 342p.

On p 325-36 there is a "collection of references to binary fusion diagrams of the metallic elements." About 200 references.

Grain size measurements in metals. 1916. Zay Jeffries. Faraday Soc Trans v 12, p 40-53.

There are 12 references on p 53.

Introduction to the study of physical metallurgy. 1915. Walter Rosenhain. Van Nostrand, N.Y. 342p.

Has short bibliographies at the ends of the chapters.

Lehrbuch der metallographie: chemie und physik der metalle und ihrer legierungen. ed 2. 1921. G. H. J. A. Tammann. Voss, Leipzig. 402p.

Replete with bibliographical footnotes. There is a bibliography on p 383-5 dealing with alloys, also on p 391-7 dealing with binary alloys.

Metallography of aluminum. 1919. R. J. Anderson. J Fr Inst v 187, p 1-47.

On p 44-7 there is a bibliography of 61 references on the general subject of aluminum; the amorphous theory, and plastic deformation; grain growth in metals; annealing and recrystallization; metallography.

Principles of metallography. 1920. Robert S. Williams. McGraw-Hill, N.Y. 158p.

Bibliography on p 139-42 has a brief list of select books on metallography of iron and steel, alloys, and heat treatment of iron and steel. About 40 references with suggestive annotations.

Radiometallography. 1919. Robert Hadfield. Unwin, Woking.

Bibliography on X-rays chiefly in its relation to radiometallography on p 19-24. About 60 references from 1913 to 1918.

Recent progress in metallography. 1916. William Campbell. Am Inst Metals Trans v 10, p 260-331.

A very exhaustive bibliography on metallography classified as follows: metals, binary and ternary alloys, electrical and magnetic properties and corrosion.

Recrystallization. 1923. E. O. Courtman. British Non-ferrous Metals Research Assoc Bul 8, p 6-15.

On p 12-15 there are 73 references on recrystallization and the effect of cold working on metals.

Metallurgy

For metallurgy of special metals see under name of metal, as Copper, zinc.

Deterioration of refractory materials in the iron and steel industries. 1917. H. B. Cronshaw. Faraday Soc Trans v 12, p 237-40.

On p 247-9 there are about 50 references on refractories for metallurgical furnaces.

Kolloidchemie und metallurgie. 1922. H. Meyer. Kolloid Zeit v 31, p 310-13.

Contains 10 bibliographical footnotes on the colloid chemistry of metallurgy.

Methods in metallurgical analysis. 1920. C. H. White. Van Nostrand, N. Y. 634p.

List of "General references" on p 335-8. About 70 references on assaying, ore analysis, quantitative analysis, etc.

Metallurgy of the non-ferrous metals. 1917. George Patchin. Soc Chem Ind annual repts appl chem v 2, p 262-75.

Reviews the literature for 1917 and gives 75 bibliographical footnotes.

Metallurgy of the non-ferrous metals. 1918. George Patchin. Soc Chem Ind annual repts appl chem v 3, p 224-37.

Reviews the literature for 1918 and gives 48 bibliographical footnotes.

Metallurgy of the non-ferrous metals. 1919. W. G. Wagner. Soc Chem Ind annual repts appl chem v 4, p 226-48.

Reviews the literature for 1919 and gives 89 bibliographical footnotes.

Metallurgy of the non-ferrous metals. 1920. Cecil H. Desch. Soc Chem Ind annual repts appl chem v 5, p 249-70.

Reviews the literature for 1920 and gives 89 bibliographical footnotes.

Metallurgy of the non-ferrous metals. 1921. Cecil H. Desch. Soc Chem Ind annual repts appl chem v 6, p 274-94.

Reviews the literature for 1921 and gives 87 bibliographical footnotes.

Pure metallic arsenic. 1920. Chester H. Jones. Chem & Met Eng v 23, p 957-60.

On p 959-60 there are 40 references to arsenic, its uses and effects in metallurgy.

Metals

A few suggestions on the theories of occlusion of gases by metals. 1919. J. H. Andrew. Faraday Soc Trans v 14, p 232-9.

There are 8 references on p 239.

Annealing of metals. 1916. F. C. Thompson. Faraday Soc Trans v 12, p 30-7.

On p 37 there are 12 references.

Experiments on the effect on mechanical and other properties of iron and its alloys produced by liquid air temperatures. 1905. R. A. Hadfield. Iron & Steel Inst J 1905, pt 1, p 147-219.

On p 206-10 there are 75 references on the effect of cold on metals especially iron and steel. References date from 1869 to 1905.

General discussion on the passivity of metals. 1914. G. Senter. Faraday Soc Trans v 9, p 203-13.

Has 32 bibliographical footnotes.

Grain size measurements in metals. 1916. Zay Jeffries. Faraday Soc Trans v 12, p 40-53.

There are 12 references on p 53.

Occlusion of gases by metals. 1918. Robert Hadfield. Faraday Soc supplement. 26p.

Contains a bibliography of 73 references.

Occlusion of gases by metals. 1919. Faraday Soc Trans v 14, p 173 et seq.

Table facing p 190 contains a list of 73 references from 1861 to 1918, with annotations, on occluded gases. Additional references are given on p 201.

Passive state of metals. 1916. C. W. Bennett and W. S. Burnham. Am Electrochem Soc Trans v 29, p 217-54.

Has about 300 bibliographical footnotes.

Passive state of metals. 1917. C. W. Bennett and W. S. Burnham. J Phys Chem v 21, p 106-49.

About 100 bibliographical footnotes.

Season cracking of nonferrous metals. Bibliography. 1922. British Nonferrous Metals Assoc Bul no 6, p 14-18. Has 47 references.

Uebersicht der die verwendung von edelmetallen und edelerden in der beleuchtungsindustrie betreffenden deutschen patente. 1923. Oelker. Edel Erden & Erze v 4, p 15-16 (Serial).

A list of 20 German patents with abstracts on the use of noble metals and rare earths in gas lighting.

Metals, Extrusion

Hot working of metals. 1922. R. Genders. British Non-Ferrous Metals Research Assoc Bul, Oct, 1922, no 7, p 7-11.

On p 11 there are 13 references on the extrusion of metals.

Metals, Plastic deformation

Hydraulic forging presses; literature on the machinery used in plastic metal deformation. 1917. E. C. Buck. Iron Age v 100, p 1480, 1522-4.

Covers the period from 1795 to 1917; about 200 references, excludes patent literature. A supplement to the bibliography on "Plastic metal deformation" by the same author.

Plastic metal deformation. Bibliography of literature on extrusion, rolling, punching, shearing and other processes. 1917. E. C. Buck. Iron Age v 100, p 1066-9.

Contains about 160 references dating from 1835 to 1917.

Methane

Methane. 1918. William Malisoff and Gustav Egloff. J Phys Chem v 22, p 529-75. About 150 references are given on p 570-4.

Methyl alcohol

Technologie der holzverkohlung, unter besonderer berücksichtigung der herstellung von sämtlichen halb- und ganzfabrikaten aus den erstlingsdestillaten. 1910. M. Klar. Springer, Berlin. 429p.

On p 404-19 is a list of about 300 patents on the distillation of wood, acetic acid, acetone, methyl alcohol, and turpentine. German, Austrian, English, French and U.S. patents are listed.

Methylene

Synthetic resins. 1914. L. V. Redman and others. J Ind & Eng Chem v 6, p 3-16.

On p 15-16 there are 52 references on phenols, methylenes and their condensation products.

Meyer, Victor

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeleeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie. V. Meyer, Remsen, and Fischer.

Victor Meyer, his life and work. Bibliography. 1916. B. Horowitz. J Fr Inst v 182, p 392-4.

Has 48 references dating from 1872 to 1913.

Mica

Industria y explotacion de la mica. 1921. E. A. Cervantes. Mem y Rev de la Soc

Cien Antonio Alzate. Mexico. v 39, p 583-95.

On p 594-5 there are 22 references on the occurrence and uses of mica. Most of the references are in English.

Mica: a bibliography. 1908. Pittsburgh Carnegie Library mo bul v 13, p 530-42. Has about 125 references with brief notes. Covers the period from 1872 to 1908.

Mica, its occurrence, exploitation and uses. 1912. Hugh S. Spence. Canada, Dept Mines, Mines Branch, repts of economic interest no 118.

On p 391-8 there are about 130 references to literature consulted.

Micrography

Bibliography of the chief literature relating to micrography. 1920. Faraday Soc Trans v 16, p 30-6.

About 120 references arranged chronologically from 1665 to 1919.

Microscopy

Microscope, its design, construction and applications. 1920. Frederick S. Spiers. Griffin, London. 260p.

On p 30-6 there are about 100 annotated references from 1665 to 1919 dealing with microscopy, the microscope and its use in metallography.

Milk

Cryoscopy of milk. 1921. Julius Hortvet. J Ind & Eng Chem v 13, p 198-208.

Has 51 bibliographical footnotes.

Examination of milk for public health purposes. 1918. Joseph Race. Wiley, N.Y.

There are bibliographies at the ends of the various chapters on milk and its contamination.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 601p.

On p 311-12 there is a list of 30 books on milk dating from 1889 to 1920.

List of references on the milk industry. 1917. H. H. B. Meyer. Special Libraries v 8, p 10-22.

Contains about 300 references and dates from 1901 to 1916.

Margarine. 1920. William Clayton. Longmans, Green, London. 187p.

Bibliography on p 144-79: oils and fats used in the manufacture of margarine, p 144-50; edible hydrogenated oils, p 150-1; examination of milk, pasturization, sterilization and inoculation, p 151-6; artificial milk, p 156; theory of emulsification, butter, renovated butter, p 157-62; analysis of butter and margarine, p 163-72; deterioration of butter and margarine in storage, use of preservatives, p 173-6; nutritional chemistry and vitamins, p 176-9. In all about 700 references.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 366-8 there are 50 references on the analysis of milk.

Milk and its hygienic relations. 1916. J. E. Lane Clayton. Longmans, Green, London. 348p.

Gives references at the end of each chapter.

Milling

Bibliography of gold milling in 1909. Mineral Industry v 18, p 383.

A list of 12 references.

Milling—Continued

Milling calculations. 1919. Robert S. Lewis. *Chem & Met Eng* v 20, p 224-33.

On p 233 is a list of 53 references representing the most important references dealing with milling calculations.

Stamp milling and cyaniding. 1915. Francis A. Thomson. McGraw-Hill, N.Y. 285p.

Contains rather extensive bibliographies at the ends of nearly all the chapters, dealing with all phases of the treatment of gold and silver ores. Amalgamation, p 12; stamp mill and accessories, p 51-5; stamp mill amalgamation, p 76-8; variations in practice, p 86-7; various mills and grinders, p 104-9, 118-19; history and chemistry of cyaniding, p 133-6; cyaniding of ores, p 145, 173-7, 201-5; precipitation and recovery of gold and silver, p 212-16, 222-4; treatment of gold ores, p 247-54, treatment of silver ores, p 262-5; miscellaneous references, costs, etc. p 266-9.

Mine air

A partial list of papers and books bearing on the subject of air and air analysis. 1911. Edwin M. Chance. *J Fr Inst* v 172, p 461-94.

Contains bibliographical footnotes and on p 490-4 over 100 references dealing chiefly with the determination of carbon monoxide and the physiological effect of the composition of mine air.

Mine gases

Beiträge zur kenntnis natürlicher gasausströmungen. 1913. Emerich Czako. Braun, Karlsruhe. 85p.

On p 81-2 there are 20 references on the analysis of mine gases and gases occluded by coal.

Mirrors

Herstellung von spiegelflächen. 1922. Zeit f Instrumentenkunde v 42, p 84-5.

Gives 13 references on the preparation of mirror surfaces.

Moissan, Henri

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeléeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Remsen, and Fischer.

Le four électrique. 1897. Henri Moissan. Steinheil, Paris. 385p.

On p 374-6 there are about 80 references to publications by Moissan on electric furnaces. Covers the period from 1892 to 1896.

Travaux de M. Henri Moissan. 1907. *Rev d'Electrochimie* v 1, p 119-20, 158-9, 289-92.

Lists the works written by Henri Moissan. Dates from 1884 to 1907.

Molasses

Molasses. 1920. C. J. West. A. D. Little, Inc., Cambridge, Mass. Bibliographic series no. 5. 52p.

About 600 references on molasses in general, composition, analysis, recovery from sugar, fermentation and uses.

Molasses fermentation. 1920. *Sugar* v 22, p 633-4, 668.

A bibliography of about 75 references on molasses fermentation and the manufacture of alcohol from molasses.

Molecules

Potentiel disruptif dans les gaz aux pressions élevées et champ moléculaire. 1923. C. E. Guye and J. J. Weigle. *Archives des Sci Phys et Nat* v 5, p 197-207.

On p 206-7 there are 19 references on the electric force of molecules.

Molybdenum

Determination of molybdenum. 1920. J. P. Bonardi and E. P. Barrett. *U S Bur Mines Tech Pa* 230. 35p.

There are 57 references on p 31-2.

Die gewinnung, verarbeitung und verwertung des molybdänglanzes, sowie die herstellung des ferromolybdäns. 1921. Mehren. *Edel Erden & Erze* v 3, p 25-6, 39-40.

A review of the working of molybdenum ores and the production of ferromolybdenum, giving abstracts and references to the original literature.

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver, and platinum in dyes and paints.

Die verwendung des molybdäns und seiner verbindungen. 1920. S. Halen. *Edel Erden & Erze* v 1, p 155-61.

Abstracts patents and literature on the use of molybdenum and its compounds.

Molybdenum; its ores and their concentration, with a discussion of markets, prices and uses. 1916. Frederick W. Horton. *U S Bur Mines Bul* 111. 132p.

There is a selected bibliography on molybdenum with brief notes on p 121-5. About 80 references arranged by author.

Monel metal

Nickel. 1921. *U S Bur Stand Circ* 100. 106p.

Bibliography of 570 references on p 94-106. Deals with the metallurgy, metallography, physical, chemical, thermal and electrical properties, technology, alloys, monel metal, steel alloys.

Mordants

See also Dyes and dyeing

Mordants. 1922. Wilder D. Bancroft. *J Phys Chem* v 26, p 447-70, 502-36, 736-72.

Pt 1 has 26 bibliographical footnotes on the general theory of mordants; pt 2 has 61 bibliographical footnotes on alumina; and pt 3 has 42 bibliographical footnotes on chrome.

Mortar

Silica and the silicates. 1921. James A. Audley. Baillière, London. 374p.

Bibliographies are at the ends of the various sections, more than 100 references in all. Silica, p 45; silicates, p 122; lime, cement and mortar, p 167; ceramic industries, p 272; glass and enamels, p 334; and miscellaneous applications, p 357.

Mosquito extermination

Mosquito eradication. 1922. W. E. Harburg. McGraw-Hill, N.Y. 248p.

On p 238-40 there is a list of publications consulted. About 50 references.

Mother-of-pearl

Perlmutter-ersatzstoffe und nachahmung-
en. 1918. A. v. Unruh. *Kunststoffe* v 8,
p 136-40, 162-4, 186-8, 198-200, 210-12,
222-5, 302-5.

Has 68 bibliographical footnotes and on
p 304-5 there are 39 German patents on sub-
stitutes for mother-of-pearl.

Motion picture film

Die chemische herstellung und behand-
lung von filmen. 1922. S. Halen. *Kunst-
stoffe* v 12, p 73-6.

Abstracts a number of patents on the
manufacture and treatment of motion pic-
ture film.

Kinematographen films. 1911. Fritz Went-
zel. *Kunststoffe* v 1. p 101-3, 128-31.

Reviews the literature, giving patents and
bibliographical footnotes on the manu-
facture of motion picture film.

Musk

Musc artificiel. 1921. E. Noelting. *Chimie
& Ind* v 6, p 719-36.

Has 34 bibliographical footnotes and gives
a list of 31 references on p 735-6 on syn-
thetic musk.

N**Naphthalene**

Bibliography of articles on naphthalene
removal. 1922. O. R. Kowalke. *Gas Age*
v 49, p 570-1.

About 100 references from 1905 to date.
Takes up the removal of naphthalene from
gas by condensation, by washing with tar
and oil, and by dissolving it out with in-
jected solvents.

Bibliography of articles on naphthalene
removal from gas prior to 1904. 1904.
A. H. White and S. Ball. *Am Gas Light*
J v 81, p 605. Also *J Gas Light* v 88,
p 326.

Natural gas

Beiträge zur kenntnis natürlicher gasaus-
strömungen. 1913. Emerich Czako,
Braun, Karlsruhe. 85p.

On p 80-1 there are 41 references to origi-
nal literature containing information on the
analysis of natural gas.

Beiträge zur kenntnis natürlicher gasaus-
strömungen. 1913. Emerich Czako.
Braun, Karlsruhe. 85p.

On p 83-5 there are 52 references to lit-
erature on the radioactivity and helium con-
tent of natural gas flows.

Compressing of natural gas. Bibliography.
1912. E. D. Leland. *Eng Soc W Pa Pro*
v 28, p 419-20.

Has 20 references with brief notes.

Handbook of petroleum, asphalt, and
natural gas. 1922. Roy Cross. *Kansas*
City Test Lab Bul 16. 625p.

On p 559-92 there is a bibliography of
references to publications and U.S. patents
on petroleum up to 1922.

Liquified products from natural gas. Their
properties and use. 1912. I. C. Allen
and G. A. Burrell. *U S Bur Mines Tech*
Pa 10. 23p.

There are 30 references on p 17-21.

Technical examination of crude petro-
leum, petroleum products and natural

gas. 1920. William A. Hamor. McGraw-
Hill, N.Y. 591p.

On p 547-9 there is a bibliography of 18
references with notes on the extraction of
gasoline from natural gas. References date
from 1912 to 1919.

Naval stores

Forest products, their manufacture and
use; embracing the principal commer-
cial features in the production, manufac-
ture, and utilization of the most im-
portant forest products other than lum-
ber in the United States. 1919. Nelson
C. Brown. Wiley, N.Y. 471p.

Bibliographies at the ends of chapters.
Deals with wood pulp and paper, tanning,
naval stores, wood distillation, sugar, etc.

Progress in the chemistry of naval stores,
1920-1921. 1922. F. P. Veitch and
V. E. Grotlich. *J Ind & Eng Chem* v 14,
p 781-4.

Bibliography on p 784 has 58 references
and covers the period 1920 to 1922.

Nickel

Electrodeposition of cobalt and nickel.
1913. Oliver P. Watts. *Am Electrochem*
Soc Trans v 23, p 99-152.

On p 150-2 there is a list of 100 papers
that are referred to in the text.

Electrodeposition of nickel. 1916. L. D.
Hammond. *Am Electrochem Soc Trans*
v 30, p 103-30.

Has 52 bibliographical footnotes.

Electrolytic corrosion of some metals.
1911. G. R. White. *J Phys Chem* v 15,
p 723-92.

About 60 footnote references dealing with
the electrolytic corrosion of zinc, copper,
tin, lead, nickel and cadmium.

Nickel. 1921. *U S Bur Stand Circ* 100.
106p.

Bibliography of 570 references on p 94-106.
Deals with the metallurgy, metallography,
physical, chemical, thermal and electrical
properties, technology, alloys, monel metal,
steel alloys.

Preliminary study of the alloys of chro-
mium, copper and nickel. Historical re-
view. 1916. D. F. McFarland and Oscar
E. Harder. *Ill U Eng Expt Sta Bul* 93,
p 52-7.

Has 22 footnotes giving the original
sources of the information contained in the
text.

Report of the Royal Ontario Nickel Com-
mission. 1917. Toronto. 584p

Bibliography of nickel on p 529-84. Has
about 1800 references from 1803 to 1917 deal-
ing with the manufacture of nickel, geology
and developments of nickel ore deposits. In-
cludes patents. Does not include nickel
alloys.

Simple, rapid and economical method of
separating nickel and copper from iron.
1923. E. G. R. Ardagh and G. M. Broug-
hall. *Canad Chem & Met v* 7, p 198-
200.

There are 22 references on p 200.

Nickel-silver

Zinc industry. 1918. Ernest A. Smith.
Longmans, Green, London. 223p.

There are 125 references on the metal-
lurgy of zinc, zinc alloys, brasses, nickel
silver, zinc-aluminum, from 1902 to 1917, on
p 213-21.

Niter cake

Summary of the proposals for the utilization of niter cake. 1918. John Johnston. *J Ind & Eng Chem* v 10, p 468-71. Has 56 bibliographical footnotes.

Nitrates

Absorption of nitrous gases. 1923. H. W. Webb. Longmans, Green, N.Y. 372p.

Gives bibliographical footnotes on the chemistry of the oxides of nitrogen. Patents on nitric acid and synthetic nitrates are also given in footnotes.

Political and commercial control of the nitrogen resources of the world. 1920. Chester R. Gilbert. *Chem & Met Eng* v 22, p 557-9.

On p 558-9 there are about 80 references on mineral nitrates, organic and chemical byproduct nitrogen, and the fixation of atmospheric nitrogen.

Utilization of atmospheric nitrogen. 1912. Thomas H. Norton. U S Dept Commerce spec agent series no 52. 178p.

Bibliography on p 177-8 of 50 references to information on the present sources of nitrogen and the air-nitrate industry; synthetic production of ammonia.

Nitric acid

Absorption of nitrous gases. 1923. H. W. Webb. Longmans, Green, N.Y. 372p.

Gives bibliographical footnotes on the chemistry of the oxides of nitrogen. Patents on nitric acid and synthetic nitrates are also given in footnotes.

Bibliography of the production of synthetic nitric acid and synthetic ammonia. 1917. J. C. Boyce. *Chem & Met Eng* v 17, p 328-37.

Covers the period from 1786 to 1917 with 250 references. In addition there is a list of about 500 patents from 1859 to 1917.

Nitrobenzene

Electrolytic reduction of nitrobenzene. 1911. Ralph C. Snowden. *J Phys Chem* v 15, p 797-844.

Has 125 bibliographical footnotes.

Nitrocellulose

Effects of heat on celluloid and similar materials. 1917. H. N. Stokes and H. C. P. Weber. U S Bur Stand Tech Pa 98. 40p.

On p 40 there are 26 references on nitrocellulose and pyroxylin plastics, and the spontaneous combustion of celluloid.

On a modified form of stability test for smokeless powder and similar materials. 1912. H. C. P. Weber. U S Bur Stand Bul v 9, p 119-29.

On p 128-9 there are 22 references on the stability and testing of nitrocellulose.

Tabellarische uebersicht über die ersatzmittel für nitrozellulose bei der zellhorndarstellung. 1915. Max Schall. *Kunststoffe* v 5, p 287-8.

A tabulation of patents with brief notes on substitutes for nitrocellulose in the manufacture of celluloid.

Nitrogen

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and

albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in medical treatment, bread-making, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Chemistry of the soil nitrogen. 1913. S. L. Jodidi. *J Fr Inst* v 175, p 483-95.

There are 25 references on p 494-5 and 32 footnote references.

Effect of nitrogen in steel; a resumé of the important literature. 1920. G. F. Comstock and W. E. Ruder. *Chem & Met Eng* v 22, p 399-405.

Not an ordinary bibliography; rather a discussion, citing numerous references on the amount of nitrogen in steels, its method of occurrence and effect on physical properties and its action during heat treatment.

Electric arc welding of steel. 1920. Henry S. Rawdon and others. U S Bur Stand Tech Pa 179. 63p.

On p 60-3 there are 27 references on mechanical tests, structure of metal of weld, and 25 references on nitrogen in iron and steel. 1887 to 1920.

I problemi dell'azoto. 1921. C. Toniolo. *Gior di Chim ind ed appl* v 3, p 360-8.

On p 362-6 there are 62 patents with notes on the manufacture of aluminum nitride, and on p 366-8 there are 38 references with notes on aluminum nitride.

Final report of the Nitrogen products committee. 1919. Great Britain, Ministry of Munitions, Munitions Inventions Dept, London.

Classified list of references to official reports and technical publications on p 325-6. About 100 references to all phases of the nitrogen industries, including ammonia oxidation, Haber process, etc.

Literature of the nitrogen industries, 1912 to 1916. 1917. Helen R. Hosmer. *Gen Elec R* v 20, p 76-85, 156-64, 252-9. Also *J Ind & Eng Chem* v 9, p 424-38.

Has 150 references. A descriptive review of the literature. Deals with the description and chemistry of the various processes.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 306-7 there are 30 references from 1895 to 1911 on the analysis of nitrogen, sulphur and phosphorus.

Political and commercial control of the nitrogen resources of the world. 1920. Chester R. Gilbert. *Chem & Met Eng* v 22, p 557-9.

On p 558-9 there are about 80 references on mineral nitrates, organic and chemical byproduct nitrogen, and the fixation of atmospheric nitrogen.

Nitrogen, Oxides of

Absorption of nitrous gases. 1923. H. W. Webb. Longmans, Green, N.Y. 372p.

Gives bibliographical footnotes on the chemistry of the oxides of nitrogen. Patents on nitric acid and synthetic nitrates are also given in footnotes.

Nitrogen fixation

Acids, alkalis, salts, etc. 1916. H. A. Auden. *Soc Chem Ind annual repts appl chem* v 1, p 108-32.

Contains 147 footnote references mainly to patents covering the year 1916. Abstracts are given in the text. Covers acids, alkalis and nitrogen fixation.

Bibliography of the literature on and relating to nitrogen fixation and the oxidation of ammonia. 1919. J Fr Inst v 187, p 716-35.

About 400 references, 1786 to 1919, classified by subject as well as chronologically.

Final report of the Nitrogen products committee. 1919. Great Britain, Ministry of Munitions, Munitions Inventions Dept, London.

Classified list of references to official reports and technical publications on p 325-6.

About 100 references to all phases of the nitrogen industries, including ammonia oxidation, Haber process, etc.

Fixation by hydrolysis? 1923. K. G. Falk and R. H. McKee. Chem & Met Eng v 20, p 224-5.

Has 21 bibliographical footnotes.

Fixation of atmospheric nitrogen. 1914. Joseph Knox. Van Nostrand, N.Y. 112p. Bibliography on p 105-10 has 153 references.

Literature of the nitrogen industries, 1912 to 1916. 1917. Helen R. Hosmer. Gen Elec R v 20, p 76-85, 156-64, 252-9. Also J Ind & Eng Chem v 9, p 424-38.

Has 150 references. A descriptive review of the literature. Deals with the description and chemistry of the various processes.

Political and commercial control of the nitrogen resources of the world. 1920. Chester R. Gilbert. Chem & Met Eng v 22, p 557-9.

On p 558-9 there are about 80 references on mineral nitrates, organic and chemical byproduct nitrogen, and the fixation of atmospheric nitrogen.

Report on the fixation and utilization of nitrogen. 1922. U S War Dept, Nitrate Div. 353p.

Bibliography on p 343-53 has about 250 references for the period 1917 to 1921 on the utilization, sources, cyanamide, fixation, and processes and nitrogen conversion.

Utilization of atmospheric nitrogen. 1912. Thomas H. Norton. U S Dept Commerce spec agent series no 52. 178p.

Bibliography on p 177-8 of 50 references to information on the present sources of nitrogen and the air-nitrate industry: synthetic production of ammonia.

O

Occlusion

See also Colloids

A few suggestions on the theories of occlusion of gases by metals. 1919. J. H. Andrew. Faraday Soc Trans v 14, p 232-9.

There are 8 references on p 239.

Beiträge zur kenntnis natürlicher gasausströmungen. 1913. Emerich Czako. Braun, Karlsruhe, 85p.

On p 81-2 there are 20 references on the analysis of mine gases and gases occluded by coal.

Occluded gases in coal. Bibliography. 1909. S. W. Parr and Perry Barker. Ill U Eng Expt Sta Bul 32, p 4-11.

An historical resumé of the literature of this subject with footnotes giving the original references.

Occlusion of gases by metals. 1918. Robert Hadfield. Faraday Soc supplement. 26p.

Contains a bibliography of 73 references.

Occlusion of gases by metals. 1919. Faraday Soc Trans v 14, p 173 et seq.

Table facing p 190 contains a list of 73 references from 1861 to 1918, with annotations, on occluded gases. Additional references are given on p 201.

Occlusion of hydrogen by metallic elements and its relation to magnetic properties. 1919. Donald P. Smith. J Phys Chem v 23, p 186-202.

There are 38 references on p 200-2.

Theories of occlusion; and the sorption of iodine by carbon. 1919. James W. McBain. Faraday Soc Trans v 14, p 202-12.

There are 14 references on p 211-12.

Odors

Odors: their sanitary significance and their elimination. 1923. J. R. Earp. Am J Pub Health v 13, p 283-93.

On p 292-3 there are 34 references on odors.

Oil fuel

Bibliography of fuel oil. 1914. William B. Phillips. Am Inst Min Eng Trans v 48, p 582-612. Also Am Inst Min Eng Bul v 90, p 1040-70.

Comprises about 1000 references.

Fuel oil bibliography. 1920. Power v 51, p 482-4.

About 200 references. Does not pretend to be complete but is intended for engineers interested from the power plant standpoint.

Heavy oil as fuel for internal combustion engines. 1913. Irving C. Allen. U S Bur Mines Tech Pa 37. 36p.

Bibliography on p 26-36 has about 280 references.

Pétrole, son utilisation comme combustible. 1920. A. Masméjean and E. Bereharc, Dunod, Paris. 229p.

On p 229 there is a list of 20 references to French literature on the use of oil as fuel.

Oil, Linseed. See Linseed oil

Oil shale

Chemical examination of the organic matter in oil shales. 1923. R. H. McKee and R. T. Goodwin. Colo Sch Mines Q v 18, no 1, sup A. 41p.

On p 40-1 there are 61 references on the chemistry of oil shales.

Notes on the economic aspect of a Canadian oil shale industry. 1920. S. C. Ellis. Canad Chem J v 4, p 181-8.

Bibliography on p 185-8 on oil shale in general as well as Scotch and Canadian shales. 100 references.

Oil shale, a resumé for 1922. 1923. V. C. Anderson. Colo Sch Mines Q v 18, no 1, sup B. 28p.

There are about 150 references on p 22-8.

Oil shale in northwest Colorado and adjacent areas. 1916. D. E. Winchester. U S Geol Sur Bul 641, p 139-98.

140 references with notes to most of the important papers published up to 1916 on oil shale of different localities.

Oil shale—Continued

Oil shale industry. 1920. Victor C. Anderson. Stokes, N. Y. 175p.

Bibliography on p 163-70 comprises more than 125 references to the "more recent, available and worth-while articles on the subject." Not complete. Arranged by author.

Oil shale industry: selected bibliography. 1921. V. C. Anderson. Colo Sch Mines Q v 16, no 2, p 27-38.

Consists of 200 references.

Oil shale of the Rocky Mountain region. 1923. Dean E. Winchester. U S Geol Sur Bul 729. 204p.

On p 143-202 there are about 1000 references comprising most of the important literature up to Mar 1, 1922.

Oil shales of northwest Colorado. 1919. Colo Bur Mines Bul 8. 59p.

Bibliography on p 47-51 is a working list of 50 annotated references on American oil shales and their development.

Selected bibliography on oil shale. 1921. E. H. Burroughs. U S Bur Mines repts invest 2277. 66p.

Contains 295 references with brief notes.

Symposium of studies and researches in oil shale. 1921. A. J. Franks. Colo Sch Mines Q v 16, no 4. 76p.

Bibliography by V. C. Anderson of recent articles on oil shale on p 74-6. About 100 references.

Thermal decomposition of shales. 1921. R. H. McKee and E. E. Lyder. J Ind & Eng Chem v 13, p 613-18.

Contains 28 references.

Oil cloth. See Linoleum

Oils, Edible

Edible oils and fats. 1918. Charles A. Mitchell. Longmans, Green, London.

Bibliography on p 124-51 has about 450 references on edible oils and fats.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N. Y. 407p.

On p 199-202 there are 90 references from 1887 to 1911 on the analysis of edible oils and fats.

Solvent extraction of vegetable oils. 1922. C. F. Eddy. J Ind & Eng Chem v 14, p 810-11.

Has 26 references covering 1919 to 1921.

Stability of olive oil. 1918. E. B. Holland and others. J Agr Research v 13, p 353-66.

Has 9 references.

Oils, Essential

Fine chemicals, medicinal substances and essential oils. 1916. Frank Lee Pyman. Soc Chem Ind annual repts appl chem v 1, p 271-97.

Has 186 footnote references for 1916. Text contains abstracts of these references.

Fine chemicals, medicinal substances, and essential oils. 1917. Frank L. Pyman. Soc Chem Ind annual repts appl chem v 2, p 468-94.

Has 154 bibliographical footnotes for the year 1917. Text has abstracts of these references.

Fine chemicals, medicinal substances and essential oils. 1918. George Barger. Soc

Chem Ind annual repts appl chem v 3, p 430-50.

Has 180 bibliographical footnotes to the literature for 1918 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1919. T. A. Henry. Soc Chem Ind annual repts appl chem v 4, p 489-507.

Has 129 bibliographical footnotes to the literature for 1919 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1920. T. A. Henry. Soc Chem Ind annual repts appl chem v 5, p 486-504.

Has 107 bibliographical footnotes to the literature for 1920 which is reviewed in the text.

Fine chemicals, medicinal substances and essential oils. 1921. Harold King. Soc Chem Ind annual repts appl chem v 6, p 517-38.

Has 167 footnote references for the year 1921. Text contains abstracts of these references.

Oils, Lubricating

Carbonization of lubricating oils in internal combustion engines. 1921. F. H. Garner. Inst Pet Tech J v 7, p 98-126, 139-48.

Bibliography on p 139-48 includes all the important references dealing with evaporation and carbonization of mineral lubricating oils and with the lubrication of internal combustion engines. Arranged by subject and chronologically. 150 references with notes.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N. Y. 407p.

On p 235-7 there are 50 references from 1904 to 1911 on the analysis of petroleum and lubricating oils.

Electric furnace: its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Oils, Mineral

See also Petroleum

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 56-7 there is a list of 60 books dating from 1885 to 1922 on mineral oils and bitumens. On p 108-9 there are references to 60 books dating from 1885 to 1919 on fats and fatty oils.

Mineral oils. 1916. J. W. Cobb. Soc Chem Ind annual repts appl chem v 1, p 61-6.

Reviews the literature for 1916 and gives 9 bibliographical footnotes.

Mineral oils. 1917. W. J. A. Butterfield. Soc Chem Ind annual repts appl chem v 2, p 69-83.

Reviews the literature for 1917 and gives 36 bibliographical footnotes.

Mineral oils. 1918. Arnold Philip. Soc Chem Ind annual repts appl chem v 3, p 63-85.

Reviews the literature for 1918 and gives 55 bibliographical footnotes.

Mineral oils. 1919. A. E. Dunstan. Soc Chem Ind annual repts appl chem v 4, p 66-83.

Reviews the literature for 1919 and gives 53 bibliographical footnotes.

Mineral oils. 1920. A. E. Dunstan. Soc Chem Ind annual repts appl chem v 5, p 71-90.

Reviews the literature for 1920 and gives 78 bibliographical footnotes.

Mineral oils. 1921. J. E. Hackford. Soc Chem Ind annual repts appl chem v 6, p 67-78.

Reviews the literature for 1921 and gives 41 bibliographical footnotes.

Oils and fats

Chemical technology of oils, fats and waxes. 1921. J. Lewkowitsch. Macmillan, London. 3 v.

Contains numerous bibliographical footnotes throughout the entire text.

Composition, properties and testing of printing inks. 1915. U S Bur Stand Circ 53. 35p.

On p 34-5 there are 23 references to books on oils, inks and pigments.

Edelmetalle und verbindungen der seltenen erden als kontaktstoffe. 1919. S. Halen. Edel Erden & Erze v 1, p 51-3, 76-9, 89-91, 102-5, 111-15.

Abstracts the patent literature on catalytic agents in contact processes: sulphuric acid, hydrogenation of fats and oils, preparation of chlorine, catalytic ammonia, ammonia oxidation and production of organic compounds.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 56-7 there is a list of 60 books dating from 1885 to 1922 on mineral oils and bitumens. On p 108-9 there are references to 60 books dating from 1885 to 1919 on fats and fatty oils.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 139-40 there is a list of books dating from 1891 to 1921 on oils, essential oils, varnish and resins.

Introduction to the chemistry of plant products. 1917. Paul Haas. Longmans, Green, London.

Has bibliographical footnotes and bibliographies at the ends of most of the chapters on: fats, oils and waxes, tannins, nitrogen bases, enzymes, colloids, proteins, pigments.

Oils, fats and waxes. 1916. G. H. Warburton. Soc Chem Ind annual repts appl chem v 1, p 165-79.

Reviews the literature for 1916 and gives 63 bibliographical footnotes.

Oils, fats and waxes. 1917. E. R. Bolton and Cecil Revis. Soc Chem Ind annual repts appl chem v 2, p 305-21.

Reviews the literature for 1917 and gives 88 bibliographical footnotes.

Oils, fats and waxes. 1918. Cecil Revis and E. R. Bolton. Soc Chem Ind annual repts appl chem v 3, p 261-85.

Reviews the literature for 1918 and gives 84 bibliographical footnotes.

Oils, fats and waxes. 1919. G. H. Warburton. Soc Chem Ind annual repts appl chem v 4, p 281-99.

Reviews the literature for 1919 and gives 70 bibliographical footnotes.

Oils, fats and waxes. 1920. John Allan. Soc Chem Ind annual repts appl chem v 5, p 291-308.

Reviews the literature for 1920 and gives 60 bibliographical footnotes.

Oils, fats and waxes. 1921. John Allan. Soc Chem Ind annual repts appl chem v 6, p 317-29.

Reviews the literature for 1921 and gives 54 bibliographical footnotes.

Production of gasoline by cracking heavy oils. 1922. E. W. Dean and W. A. Jacobs. U S Bur Mines Tech Pa 258. 256p.

On p 51-5 there are 38 annotated references.

Some problems connected with the saponification of fatty oils. 1923. H. M. Langton. Chem & Ind v 42, p 51T-7T. Has 52 bibliographical footnotes.

The monardas; a phytochemical study. Bibliography. 1911. Nellie Wakeman. Wisconsin U Science series bul v 4, p 123-8.

Has 26 references from 1832 to 1910. Each reference has an extensive abstract. Deals with chemical composition of oils from monarda fistulosa.

Viscosity temperature curves of fractions of typical American crude oils. 1921. E. W. Dean and F. W. Lane. J Ind & Eng Chem v 13, p 779-86.

Bibliography on p 786 of 36 references on the viscosity and fluidity of oils and other liquids.

Oils and fats, Analysis

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Flash point of oils. Methods and apparatus for its determination. 1914. Irving C. Allen. U S Bur Mines Tech Pa 49. 38p.

Bibliography on p 25-31 has about 140 references.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 172-3 there are 50 references from 1900 to 1911 on the analysis of oils, fats and fatty acids.

On p 199-202 there are 90 references from 1887 to 1911 on the analysis of edible oils and fats.

On p 214-17 there are 80 references from 1891 to 1911 on the analysis of drying oils.

On p 235-7 there are 50 references from 1904 to 1911 on the analysis of petroleum and lubricating oils.

Optical activity

Anomalous rotatory dispersion. 1914. Leo Tschugaeff. Faraday Soc Trans v 10, p 70-9.

Has 34 bibliographical footnotes.

Optical activity—Continued

Influence of certain groups on rotatory power. 1914. H. Rupe. *Faraday Soc Trans* v 10, p 46-59.

Has 43 bibliographical footnotes.

Ursprung der optischen aktivität des erdols. 1907. Rudolf Albrecht. Gutsch, Karlsruhe. 108p.

Has a large number of bibliographical footnotes on the investigation of the optical activity of mineral oils.

Ore slimes

See also *Slimes*

Control of ore slimes. 1916. O. C. Ralston. *Eng & Min J* v 101, p 763-9, 890-4, 990-4. Contains 29 bibliographical footnotes.

Ores

Approximate quantitative microscopy of pulverized ores including the use of the camera lucida. 1919. W. H. Coghill and J. P. Bonardi. *U S Bur Mines Tech Pa* 211, 20p.

There are 21 references on p 16-17; also bibliographical footnotes.

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co. Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Fuel and mineral briquetting. 1905. Robert Schorr. *Am Inst Min Eng Trans* v 35, p 115-16, 968-9.

A list of about 25 references.

Precipitation from ore pulps. Bibliography. 1916. G. H. Clevenger. *Int Eng Cong, San Francisco, Met volume* p 393-6.

About 50 references on precipitation from ore pulps, electrolytic, charcoal, aluminum, and zinc precipitation, and refining.

Organic compounds

Electrical conductivity and ionization constants of the organic compounds: a bibliography of literature from 1889 to 1910 inclusive, including all important work before 1889 and corrected to the beginning of 1913. 1914. Heyward Seudder, London. 568p.

Gives numerical data.

Réfraction et dispersion moléculaires. 1922. R. Cornubert. *Rev. gén des Sci* v 33, p 471-83.

Has numerous footnotes indicating original sources of information on refraction and dispersion of organic compounds.

Ueber die verwendbarkeit und die katalytische wirkungsweise aromatischer sulfosäuren bei der herstellung hochmolekularer ester. 1923. R. Escales and H. Levy. *Kunststoffe* v 13, p 25-8.

Has 52 bibliographical footnotes.

Organometallic compounds

Bibliography of the Grignard reaction. 1900 to 1921. 1922. Clarence J. West and H. Gilman. *Nat Research Council, repr & circ ser no 24*. 103p.

Comprises 1485 references.

Bibliography of the literature of organic mercurials. 1919. F. C. Whitmore. *J Ind & Eng Chem* v 11, p 1083-91.

Approximately 850 references to the literature of the organic compounds of mercury, arranged according to the classes of compounds.

Organic compounds of arsenic and antimony. 1918. Gilbert T. Morgan. Longmans, Green, London. 375p.

Bibliography on p 351-60 has 200 references from 1760 to 1917. There are also bibliographical footnotes.

Organic compounds of mercury. 1921. Frank C. Whitmore. Chem Cat Co, N.Y. 397p.

Bibliography of biological and pharmacological work with organic mercury compounds on p 371-2. Supplementary bibliographical lists are given on p 373-7. Patents on organic mercury compounds on p 378-80. There are also several hundred bibliographical footnotes throughout the text.

Organometallic compounds of zinc and magnesium. 1913. Henry Wren. Van Nostrand, N.Y. 100p.

A bibliography of 201 references is given on p 93-8.

Recent development in the chemistry of organic mercury compounds. 1923. F. C. Whitmore. *Ind & Eng Chem* v 15, p 417-19.

There are 37 references on p 419.

Recent developments in the organic chemistry of arsenic. 1923. W. Lee Lewis. *J Ind & Eng Chem* v 15, p 17-19.

Bibliography on p 19 has 38 references.

Some recent applications of magnesium in synthetic organic chemistry. 1922. H. Hepworth. *Soc Chem Ind J* v 41, p 7T-11T.

A valuable and comprehensive review of the recent applications of the Grignard reagents with numerous references.

Osmium

Bibliography of the metals of the platinum group; platinum, palladium, iridium, rhodium, osmium, ruthenium. 1748-1917. James L. Howe and H. C. Holtz. *U S Geol Sur Bul* 694. 558p.

Contains about 4500 references.

Neueste arbeiten betreffend die platinbegleitmetalle, iridium, palladium, osmium, rhodium und ruthenium. 1921. S. Halen. *Edel Erden & Erze* v 2, p 145-6, 156-7.

Outlines the latest literature on the platinum group metals and their compounds: iridium, palladium, osmium, rhodium, and ruthenium.

Osmotic pressure

Osmotic pressure. 1919. Alexander Findlay. Longmans, Green, London. 116p.

Bibliography on p 107-11 has 177 references.

Ostwald process

Literature of the nitrogen industries. 1917. Helen R. Hosmer. *J Ind & Eng Chem* v 9, p 425-38.

Reviews literature of nitrogen fixation, Haber process, ammonia synthesis, Ostwald process, ammonia from byproduct coke ovens, and calcium cyanamide. 152 papers are referred to and listed on p 437-8. Covers the period from 1912 to 1916.

Overvoltage

- Overvoltage. 1916. C. W. Bennett and J. G. Thompson. *Am Electrochem Soc Trans* v 29, p 269-93.
Has more than 50 bibliographical footnotes.

Oxides

- Hydrous oxides. 1920. Harry B. Weiser. *J Phys Chem* v 24, p 277-328.
Has 66 bibliographical footnotes.
- Hydrous oxides. 1922. Harry B. Weiser. *J Phys Chem* v 26, p 401-34, 654-86.
Has 179 bibliographical footnotes.

Oxycellulose

- Oxy-cellulose: a summary of the literature. 1922. Percy H. Clifford and Robert A. Fargher. *J Textile Inst* v 13, p 189-204.
Contains 90 references.

Oxychloride cement

- Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar materials, slag cement, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxy salt compounds.

Oxygen, Liquid

- Progress of investigations on liquid oxygen explosives. 1923. S. P. Howell and others. *U S Bur Mines Tech Pa* 294. 91p.
On p 81-5 there are 70 selected references on liquid air and 32 patents on liquid oxygen processes.

Ozone

- Elektrische behandlung von gasen. 1922. Henri Silberman. *Janecke*, Leipzig. 348p.

On p 347-8 there are about 200 patents on the applications of electric discharges upon gases, preparation of ozone, dust and mist removal from gases, synthesis of nitric oxide, ammonia, etc.

- Ozone; its manufacture, properties and uses. 1916. A. Vosmaer. *Van Nostrand*, N.Y. 197p.

Bibliography on p 185-91 covers the period from 1863 to 1916 and contains references to "about one-fifth the total literature of ozone" having about 140 references arranged chronologically.

- Ozoniseeren van fabrieksproducten der suikerindustrie. 1922. C. W. Schonebaum. *Kruyt*, Amsterdam, Holland. 87p.

On p 7-16 there are abstracts of 26 patents and literature on the effect of ozone on sugar.

P**Packing**

- Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 158-70 there are about 150 annotated U.S. and foreign patents on packing material, rubber and rubber compositions, rubber substitutes, cellulose, condensation products, and plastic compositions.

- Stopfbüchsenpackungen. 1920. Rudolf Dittmar. *Kunststoffe* v 10, p 145-8.
Lists about 100 patents on material for packings (for valves, stuffing boxes, etc.)

Paint

- Diatomaceous earth. 1920. Norris Goodwin. *Chem & Met Eng* v 23, p 1158-60.
On p 1159-60 there are about 150 references on occurrence, tests of diatomaceous earth, patents on its use as filtering agent, building material, in paints, cements and polishing compounds.

- Paints and painting. 1917. *Am Inst Arch* J v 5, p 647-52.

Has more than 200 references on paint materials, coatings for metals, walls and floors, wood preservatives, fire retardants, etc.

- Paints, pigments, varnishes and resins. 1916. R. S. Morrell. *Soc Chem Ind annual repts appl chem* v 1, p 180-96.
Reviews the literature for 1916 and gives 93 bibliographical footnotes.

- Paints, pigments, varnishes and resins. 1917. R. S. Morrell. *Soc Chem Ind annual repts appl chem* v 2, p 322-36.
Reviews the literature for 1917 and gives 57 bibliographical footnotes.

- Paints, pigments, varnishes and resins. 1918. L. M. Nash. *Soc Chem Ind annual repts appl chem* v 3, p 286-97.
Reviews the literature for 1918 and gives 47 bibliographical footnotes.

- Paints, pigments, varnishes and resins. 1919. J. H. B. Jenkins. *Soc Chem annual repts appl chem* v 4, p 300-14.
Reviews the literature for 1919 and gives 79 bibliographical footnotes.

- Paints, pigments, varnishes and resins. 1920. A. de Waele. *Soc Chem Ind annual repts appl chem* v 5, p 309-31.
Reviews the literature for 1920 and gives 173 bibliographical footnotes.

- Paints, pigments, varnishes and resins. 1921. H. H. Morgan. *Soc Chem Ind annual repts appl chem* v 6, p 330-52.
Reviews the literature for 1921 and gives 106 bibliographical footnotes.

- Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 113-16 there are about 60 annotated U.S. and foreign patents on casein, uses in glues, paper manufacture, paints, and other uses.

- Rubber, resins, paints and varnishes. 1921. R. S. Morrell and A. de Waele. *Baillière*, London. 236p.
Bibliography on p 229-30 has about 40 references.

- Some books on paints and varnishes and wood finishing. 1923. *Forest Products Laboratory Tech note* 195.
Lists 47 references.

- Toxic and antiseptic properties of paint in the light of recent investigations. 1915. C. A. Klein. *Paint & Varnish Soc Papers* v 6, p 59-88.

On p 86-8 there is a list of 62 references to sources of information mentioned in the text.

Paint—analysis

- Analysis of paint vehicles, japons and varnishes. 1920. C. D. Holley. *Wiley*, N.Y. 203p.

There are 24 references on p 194-5.

Paint—analysis—Continued

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Paint removers

Mittel zur entfernung alter lackanstriche sog. Abbeizmittl. 1919. Marschalk. Kunststoffe v 9, p 19-23, 35-7.

A tabulation of 145 patents with notes on paint and varnish removers.

Tabellarische uebersicht über die herstellung von lack- und farbenbeizen. 1916. M. Schall. Kunststoffe v 6, p 274-8, 293-6.

A tabulation of patents with brief notes on paint and varnish removers.

Palladium

Bibliography of the metals of the platinum group: platinum, palladium, iridium, rhodium, osmium, ruthenium, 1748 to 1917. 1919. James L. Howe and H. C. Holtz. U S Geol Sur Bul 694. 558p. Contains about 4500 references.

Neueste arbeiten betrffend die platinbegleitmetalle, iridium, palladium, osmium, rhodium, und ruthenium. 1921. S. Halen. Edel Erden & Erze v 2, p 145-6, 156-7.

Outlines the latest literature on the platinum group metals and their compounds: iridium, palladium, osmium, rhodium and ruthenium.

Paper

See also Woodpulp

Bibliographic de la papeterie. 1921. Charles Dumercy; tr. by Dard Hunter. Paper Tr J v 72, no 11, p 56, 58, 60, 62, 64, 66; no 12, p 54, 56, 58, 60, 62.

A bibliography on paper making. Contains 175 references.

Bibliography of paper deterioration. 1918. H. M. Lydenburg. Paper v 22, no 19, p 12-13.

Has 40 annotated references.

Bibliography of papermaking for 1921. 1922. C. J. West. Paper v 74, April 20, p 51-4; April 27, p 53-6; May 4, p 60+; May 11, p 60+; May 18, p 51-3.

Bibliography of papermaking for 1922. 1923. C. J. West. Paper Tr J v 76. Published serially beginning in the April 19 issue.

Bibliography of periodical publications on papermaking and allied subjects during 1921. 1922. Tcch Sec Papermaker's Assn of Great Britain and Ireland. 47p.

A classified bibliography with brief notes. There was also a bibliography for 1920 printed during 1921.

Bibliography of pulp and paper industry. 1913. H. E. Surface. U S Forest Service Bul 123. 48p.

Bibliography on papermaking materials. 1921. Clarence J. West. Paper Tr J v 71. Published in serial form from Dec. 16, 1920, to March 3, 1921.

Comprises 66p.

Books for a paper mill library. 1921. Paper v 29, Sept 14, p 17-18.

A list of about 40 books and pamphlets useful to paper mill technologists; gives a synopsis of the contents of each book.

Chemistry of papermaking. 1894. R. B. Griffin and A. D. Little. Lockwood, N. Y. 517p.

There is a list of about 150 U.S. patents with brief notes relating to the sulphite process on p 471-7.

Fibres, textiles, cellulose and paper. 1917. J. F. Briggs. Soc Chem Ind annual repts appl chem v 2, p 126-58.

Has 150 bibliographical footnotes for the year 1917. Abstracts are given in the text.

Fibres, textiles, cellulose and paper. 1918. J. F. Briggs. Soc Chem Ind annual repts appl chem v 3, p 115-46.

Has 112 bibliographical footnotes for 1918. Text has abstracts of these references.

Fibres, textiles, cellulose and paper. 1919. Sidney S. Napper. Soc Chem Ind annual repts appl chem v 4, p 114-36.

Has 132 bibliographical footnotes to articles issued during 1919. Text contains abstracts of these references.

Fibres, textiles, cellulose and paper. 1920. Sydney S. Napper. Soc Chem Ind annual repts appl chem v 5, p 125-49.

Has 163 footnotes to references abstracted in the text for the year 1920.

Fibres, textiles, cellulose and paper. 1921. Frank L. Barrett. Soc Chem Ind annual repts appl chem v 6, p 112-53.

Has 307 bibliographical footnotes for the year 1921. Abstracts are given in the text.

Forest products, their manufacture and use; embracing the principal commercial features in the production, manufacture, and utilization of the most important forest products other than lumber in the United States. 1919. Nelson C. Brown. Wiley, N.Y. 471p.

Bibliographies at the ends of chapters. Deals with wood pulp and paper, tanning, naval stores, wood distillation, sugar, etc.

Government paper bibliography: United States government publications pertaining to pulp and paper. Supplement no 1. Helen E. Stockbridge. Paper v 22, no 11, p 38, 40, May 22, 1918.

Supplementary to the bibliography by Henry E. Surface. Has 26 references.

Handmade paper and its watermarks: a bibliography. 1917. Dard Hunter. Paper v 20, no 12, p 20-6.

Contains 170 references with annotations.

History of papermaking in the United States. 1920. Maude V. Dickinson. Paper Tr J v 71, no 21, p 176, 178, 180, 182, 184, 186.

Has about 125 references with descriptive notes.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 349-50 there is a list of 30 books dating from 1894 to 1921 on cellulose and paper. On p 377 there is a list of 40 books on textile fibres dating from 1831 to 1919.

- L. C. card references for paper men. A descriptive book bibliography of the arts, technology and economics of paper. Compiled with extensive emendations from the Library of Congress printed index cards. 1920. M. Hubbard. Paper v 26, nos 7 and 8, April 21, 28.
Has more than 8000 references.
- Literatur der zellstoff- und papierindustrie. 1921. Carl G. Schwalbe. Zellstoff und Papier v 1, p 261-74.
Classified abstracts of the literature of the pulp and paper industry for 1921, dealing with the chemical aspect of the question.
- Literature of the paper industry. A bibliography adapted from Akesson-Everling-Fluckiger. 1919. M. Hubbard. Paper v 23, Feb 12, p 54, 56, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80.
Contains 300 references.
- Paper manufacture: a bibliography. 1921. H. H. B. Meyer. Paper Tr J v 72, no 13, p 56, 58, 60, 62, 64, 66. Also in nos 14 and 15.
Contains about 350 references with some annotations.
- Paper research literature. A list of contributions by members of the Forest Products Laboratories of Canada, 1913-1918, with an appendix of contributions by other members of the Canadian Forestry branch. 1919. Eva M. Smith. Paper v 24, no 9, p 15-16.
Has 35 references.
- Paper research literature. A list of contributions by members of the laboratory of Arthur D. Little, 1889 to 1918. 1919. Paper v 24, no 17, p 24-5.
Has 26 references.
- Paper research literature. A list of contributions by members of the U S Bureau of Chemistry, 1904 to 1918. 1919. Edward O. Reed. Paper v 24, no 13, p 15-16.
Has 22 references.
- Paper research literature. A list of contributions by members of the U S Forest Service, Forest Products Laboratory, 1910 to 1918, with an appendix of contributions by other members of the service, 1877 to 1918. 1919. Etta L. Matthews and Helen E. Stockbridge. Paper v 24, no 8, p 15-20.
Has 150 references.
- Paper research literature. A list of contributions to paper literature by C. F. Cross. 1921. C. J. West. Paper Tr J v 73, July 21, p 46+.
Has 80 annotated references.
- Paper research literature. A list of contributions by members of the Bureau of Standards, 1910 to 1920. 1920. F. A. Curtis. Paper Tr J v 71, no 19, p 48, 50.
Has 30 references.
- Paper research literature. A list of the contributions of the staff of L'École Française de Papeterie. 1920. Barbillon. Paper v 25, no 23, p 20-2.
Quotes about 50 articles and papers.
- Paper research literature. A list of the contributions of the staff of the Königlichen Materialprüfungsamt zu Berlin-Lichterfelde West. 1920. William Herzberg; tr. and augmented by C. J. West. Paper Tr J v 71, nos 17 and 18.
Has 300 references with notes. Dates from 1885 to 1919.
- Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.
On p 113-16 there are about 60 annotated U.S. and foreign patents on casein, its use in glues, paper manufacture, paints and other uses. On p 155-8 there are about 40 annotated U.S. and foreign patents on artificial leather, artificial silk and paper.
- Pulp and paper research problems. Investigations planned and accomplished by the Forest Products Laboratory. 1920. Paper v 26, April 21, p 54, 56, 60, 62.
Bibliography of special fibres for pulp and paper purposes on p 60, 62 has 17 references.
- Reading list on papermaking materials. 1921. C. J. West. Pub by A. D. Little, Cambridge, Mass. Bibliographic series no 6. 170p.
- Reciprocity and the tariff in the paper industry. A reading list. 1921. Clarence J. West. Paper Tr J v 72, May 5, p 48+.
Contains more than 200 references.
- Seed flax straw as papermaking material. 1923. E. H. Kellogg. Paper Tr J v 77, Aug 2, p 43-9.
There are 23 references on p 49.
- Select bibliography of cellulose, paper and allied subjects. 1919. M. Hubbard. Paper v 25, no 4, p 32, 34, 36, 38, 40, 41, 46, 48, 50, 52; no 9, p 15-19; no 10, p 25.
More than 250 references are cited.
- Textbook of papermaking. 1920. C. F. Cross and E. J. Bevan. Spon, London. 527p.
Bibliography on p 507-15 has about 55 references with notes.
- Ueber papier- und zellstoffmassen. 1916. Halle. Kunststoffe v 6, p 269-73, 289-92, 304-11.
A tabulation of 259 patents with brief notes on paper and pulp.
- United States government publications pertaining to pulp and paper. 1916. Henry S. Surface. Paper v 19, no 4, p 25-30.
This is a second edition revised and enlarged of a bibliography that appeared in J Ind & Eng Chem v 5, p 614-16. Has 100 references with notes.
- Paper, Blotting
Blotting paper: a reading list. 1920. Clarence J. West. Paper Tr J v 71, no 22, p 48, 50, 52.
Has 50 references with extensive notes.
- Paper, Cigarette
Special papers: cigarette paper, a reading list. 1921. C. J. West. Paper Tr J v 72, June 16, p 44+.
Has about 35 references with brief annotations.

Paper, Filter

Filter paper. A reading list. 1920. Clarence J. West. Paper Tr J v 71, no 15, p 34, 36, 38, 40.
Has 45 annotated references.

Paper, Kraft

Sulphate pulp and kraft paper; list of references covering the literature up to 1912. 1921. C. K. Textor. Paper Tr J v 73, July 28, p 46+; Aug 11, p 46; Aug 18, p 54+.
Has about 250 references with extensive notes.

Paper, Marbled

Bibliography of marbled paper. 1921. D. Hunter. Paper Tr J v 72, April 28, p 52+.
Contains about 50 references with brief notes.

Paper, Roofing

Herstellung von dachpappe und dachpappeanstrichen nach der patentliteratur in tabellarische uebersicht. 1920. Marschalk. Kunststoffe v 10, p 5-7, 27-30.
Lists 91 patents with brief notes on roofing paper.

Paper—analysis and testing

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Papierprüfung; eine anleitung zum untersuchen von papier. 1915. Wilhelm Herzberg. Springer, Berlin. 276p.

Bibliography of 50 references on p 260-1, and on p 261-73 there is a list of more than 200 publications on paper testing issued from 1885 to 1914 by the "Materialsprüfungsamt."

Paper bleaching

Bleaching of paper. 1920. Clarence J. West. Paper Tr J v 71, p 24, 36, 38, 40, 42, 48 (Dec 9, 1920).
Bibliography of 200 references.

Paper dyeing

Application of dyestuffs to textiles, paper, leather and other materials. 1920. J. M. Matthews. Wiley, N.Y. 768p.
Bibliography on p 733-50 has 500 references.

Dyeing of pulp and paper. Bibliography. 1921. C. J. West. Paper Tr J v 72, May 12, p 46+.
Contains about 180 references with annotations.

Paper fillers

Clay in the paper industry. 1921. C. J. West. Paper Tr J v 72, June 2, p 52+.
A bibliography of about 100 references.

Retention of clay in paper; a study of some of the factors influencing the retention of fillers by paper pulp. 1916. John D. Rue. Paper v 19, no 4, p 18-25 (Oct 4).

A bibliography of 26 references on the sources and properties of mineral fillers is given on p 24-5.

Paper mills

Electricity in pulp and paper mills. Bibliography. 1923. C. J. West. Paper Tr J v 76, p 50-3, (Feb. 22, 1923).

Contains about 120 references with some annotations.

Lighting of paper and pulp mills. 1922. J. H. Kurlander. Gen Elec Co, Edison Lamp Works, Lighting data bul 140. 20p.

On p 20 there are 3 references on the lighting of paper mills.

Paper sizing

Sizing of paper: a reading list. 1920. Clarence J. West. Paper Tr J v 71, no 20, p 50, 52, 54, 56; no 21, p 110, 112, 114, 116.
Has 300 references.

Paper textiles

A reading list on paper yarns and textiles. 1921. C. J. West. Paper Tr J v 72, May 26, p 42+.
Contains 125 references.

Paraffin

La parafina. 1922. H. Gault and Boisseler. Bol del Petroleo v 14, p 217-34.
There are 61 references on paraffin on p 233-4.

La parafina. 1923. H. G. y. Boisselet. Bol del Petroleo v 14, p 95-115.

On p 113-15 there are 131 references quoted in the text on the resources and chemistry of petroleum and paraffin.

Passivity

General discussion on the passivity of metals. 1914. G. Senter. Faraday Soc Trans v 9, p 203-13.
Has 32 bibliographical footnotes.

Passive state of metals. 1916. C. W. Bennett and W. S. Burnham. Am Electrochem Soc Trans v 29, p 217-54.
Has about 300 bibliographical footnotes.

Passive state of metals. 1917. C. W. Bennett and W. S. Burnham. J Phys Chem v 21, p 106-40.
About 100 bibliographical footnotes.

Pasteur, Louis

Rond het werk van Louis Pasteur; eenige boeken over Pasteur verschenen. 1922. A. J. S. Vandevelde. Chemisch Weekblad v 19, p 517-18.
A list of 62 books on Pasteur and his work.

Peat

Commercial peat: its uses and possibilities. 1910. Frederick T. Gissing. Griffin, London. 191p.

There are 100 annotated references on p 163-9 and on p 170-6 there is a list of patents on peat and related subjects from 1900 to 1909.

Exploitation industrielle de la tourbe. 1918. Ch. Van Ecke. Dunod, Paris.

Bibliography of about 170 books on peat and its uses on p 352-63. Arranged by author.

Handbook on the winning and utilization of peat. 1921. A. Hausding; tr. by Hugh Ryan. Great Britain Dept of Scientific and Industrial Research. 506p.

On p 481-94 there are more than 100 patents with extensive abstracts on utilization of peat, its carbonization, and furnaces.

Peat: its manufacture and use. 1907. Philip R. Björling and Frederick T. Gissing. Griffin, London. 173p.

There is a bibliography of 125 references on p 156-60. On p 161-5 there is a "list of patents relating to peat from 1900 to the present time."

Report on the peat deposits of northern New Jersey. 1906. C. W. Parmelee and W. E. McCourt. Annual rept state geologist for 1905, pt 5, p 223-313.

There are about 150 references on peat, its occurrences, uses and mining on p 309-13. Covers the period 1663 to 1904.

Torfkraft. 1913. Friedrich Bartel. Springer, Berlin. 164p.

On p 160-4 there is a bibliography of about 175 references on peat and turf and their use for power purposes.

Pectin gels

Consistency of pectin gels. 1916. Jas. B. McNair. J Phys Chem v 20, p 633-9.

On p 639 there are 9 references on pectin gels.

Pepsin

Biochemical catalysis in life and industry; proteolytic enzymes. 1917. Jean Effront; tr. by Samuel Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Perkin, William Henry

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeleeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Remsen, and Fischer.

Permutit

Der basenaustausch im permutit. 1918. V. Rothmund and G. Kornfeld. Zeit anorg Chem v 103, p 129-63.

More than 75 references to the most important articles and books on artificial aluminum silicates and related subjects are given on p 160-3. There are also many bibliographical footnotes throughout the article.

Petroleum

See also Oils, mineral

Bibliography of petroleum and allied substances. 1915 to 1918. E. H. Burroughs. U S Bur Mines Bul 149, 165, 180, 189.

Classified bibliography on petroleum. Main headings are: history and occurrence, geology and origin, development and production, transportation, storage and distribution, properties, refining, utilization and economic considerations.

Bibliography of petroleum and allied substances, in 1919 and 1920. 1923. E. H. Burroughs. U S Bur Mines Bul 216. 374p.

Consists of 4532 references with annotations.

Die erdölindustrie im den jahren 1916 bis 1918. 1919. Richard Kissling. Chem Zeit v 43, p 897-9, 905-9, 913-17.

Reviews literature on the production and treatment of petroleum for the years 1916 to 1918 and gives original references in footnotes.

Die erdölindustrie im jahre 1919. 1920. Richard Kissling. Chem Zeit v 44, p 569-71, 577-9, 590-1.

Reviews the literature of the petroleum industry for 1919 and gives original references in footnotes.

Die erdölindustrie im jahre 1920. 1921.

Richard Kissling. Chem Zeit v 45,

p 1121-2, 1145-7, 1169-70, 1173-4, 1197-9.

More than 240 footnote references. On p 1199 there is a list of patents relating to the petroleum industry.

Gasoline cracking processes. 1920. Fred W. Padgett. Chem & Met Eng v 23, p 908-13.

On p 911-13 is a fairly complete list of U.S. and foreign patents relating to the cracking of petroleum.

Handbook of petroleum, asphalt, and natural gas. 1922. Roy Cross. Kansas City Test Lab Bul 16. 625p.

On p 559-92 there is a bibliography of references to publications and U.S. patents on petroleum up to 1922.

Kolloidchemie und erdölindustrie. 1922. Rudolf Koetschau. Kolloid Zeit v 31, p 314-19.

Contains 29 bibliographical footnotes on the colloid chemistry of petroleum.

La parafina. 1923. H. G. y. Boisselet. Bol del Petroleo v 14, p 95-115.

On p 113-15 there are 131 references quoted in the text on the resources and chemistry of petroleum and paraffin.

Liquified products from natural gas. Their properties and use. 1912. I. C. Allen and G. A. Burrell. U S Bur Mines Tech Pa 10. 23p.

There are 30 references on p 17-21.

List of United States of America patents: class of mineral oils and chemical reagents, 1918 to 1922. 1922. Petroleum & Oil Shale Ind (Russia) v 3, no 9, p 633-8. In Russian.

Motor fuels. 1923. Eugene H. Leslie. Chem Cat Co, N.Y. 681p.

On p 395-7 there are about 80 references on cracking processes; on p 504-8 about 120 references on alcohol and on p 225-6 there are about 30 references on refinery equipment and operation. Also has numerous bibliographical footnotes and additional references at the ends of the chapters.

Notes for the determination of water in petroleum and its products. 1912. I. C. Allen and W. A. Jacobs. U S Bur Mines Tech Pa 25. 13p.

Has 42 bibliographical footnotes.

Petroleo crudo como combustible. 1917. Edward M. Wilson. Mexico, dept de Talleres graf de la Sec de Fomento. 80p.

Bibliography on p 76-80 on liquid fuel. It is in English and has 150 references.

Petroleum. 1922. Boverton Redwood. ed 4. Lippincott, Philadelphia, 3 v.

In v 3, on p 1155-1317 there is an exhaustive bibliography of nearly 9000 references, few being later than 1911.

Petroleum und asphalt in Ungarn. 1907. Theodor Posewitz. Franklin Verein, Budapest.

On p 239-49 there are 233 references from 1791 to 1906, arranged chronologically, on petroleum and asphalt in Hungary.

Petroleum—Continued

Petroleum refining. 1922. Andrew Campbell. Griffin, London. 297p.

Bibliography in the English language on p 224-82 is a list of references useful to petroleum refiners, arranged by subject. Has about 1800 references.

Polish and German bibliography of the Galician petroleum industry, 1875 to 1922. 1922. *Inst Pet Tech J* v 8, p 666-87.

About 300 references to the Polish and German literature of petroleum.

Preparation of gasoline and kerosene from heavier hydrocarbons. 1915. Benjamin T. Brooks and others. *J Ind & Eng Chem* v 7, p 180-5.

Has 35 bibliographical footnotes.

Production of gasoline by cracking heavy oils. 1922. E. W. Dean and W. A. Jacobs. *U S Bur Mines Tech Pa* 258. 256p.

On p 51-5 there are 38 annotated references.

Pyrogenesis of hydrocarbons. 1917. E. Lawson Lomax. *J Ind & Eng Chem* v 9, p 870-900.

On p 899 there are 137 patents from 1860 to 1915. On p 900 there are 153 references to literature from 1809 to 1916.

Ursprung der optischen aktivität des erdöls. 1907. Rudolf Albrecht. Gutsch, Karlsruhe. 108p.

Has a large number of bibliographical footnotes on the investigation of the optical activity of mineral oils.

Phase rule

La tension de vapeur des mélanges de liquides: l'azéotropisme. 1918. Maurice Lecat. Lamartin. Brussels.

Bibliography on p 217-66 has more than 700 references arranged by author as well as chronologically from 1813 to 1917. Deals with vapor pressure and boiling points of mixtures of liquids, fractional distillation, phase rule. A very exhaustive bibliography referring to American, English, French, German, etc. literature.

Phenol

Analysis of coal with phenol as a solvent. 1914. S. W. Parr and H. F. Hadley. III *U Eng Expt Sta Bul* 76, p 36-41.

An historical summary with bibliographical footnotes.

Phenol resins

Patentierten verfahren zur herstellung löslicher harzartiger massen aus phenolen und aldehyden u. dgl. 1914. Oskar Kausch. *Kunststoffe* v 4, p 268-9.

A tabulation of patents with notes on the preparation of soluble resinous substances from phenols and aldehydes.

Synthetic resins. 1914. L. V. Redman and others. *J Ind & Eng Chem* v 6, p 3-16.

On p 15-16 there are 52 references on phenols, methylenes and their condensation products.

Verfahren zur herstellung von kunstharzen u dgl aus phenol und formaldehyd. 1913. O. Kausch. *Kunststoffe* v 3, p 301-2.

A tabulation of German, French, British and U.S. patents with brief notes on the preparation of artificial resins from phenol and formaldehyde.

Phonograph records

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 153-5 are about 40 annotated U.S. and foreign patents on compositions

for phonograph records, plastics, and vehicle tire fillings.

Phosgene. See Carbonyl chloride

Phosphates

Effect of soluble salts on the absorption of phosphates by soils. 1911. Harrison E. Patten. *J Phys Chem* v 15, p 639-58.

On p 639 there are about 20 references to the literature of the U.S. Dept Agriculture on the absorption of soluble bodies from solution by soils and the physical and chemical conditions produced by absorption processes.

Fertilizer resources of the United States. 1912. Washington, D.C. Govt Print Off, U S 62d Cong, Senate Doc 190.

On p 78-106 there are about 800 references on the phosphate resources of the world, and on p 125 there are about 20 patents on the extraction of potash from minerals.

Modified method for the determination of fluorine with special application to the analysis of phosphates. 1917. Cary R. Wagner and William H. Ross. *J Ind & Eng Chem* v 9, p 1116-23.

Has 50 bibliographical footnotes.

Phosphorus

Metallurgical theories conflict; complete bibliography shows that investigators attribute various effects to sulphur and phosphorus in steel and cast iron. 1920. *Foundry* v 48, p 467-8.

A list of about 65 references with full notes.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 306-7 there are 30 references from 1895 to 1911 on the analysis of nitrogen, sulphur and phosphorus.

Phosphorus and sulphur in steel. A bibliography on the action of phosphorus and sulphur in steel. 1921. U S Bur Standards, Washington, D.C.

Photochemical cells

Cuprous oxide cell. 1917. Theodore W. Case. *Am Electrochem Soc Trans* v 31, p 353-64.

On p 363-4 there are 11 references on photochemical cells.

Photographic film

See also Motion picture film

Herstellung von films. 1917. J. Marschall. *Kunststoffe* v 7, p 108-10.

Lists 23 patents with short abstracts on the manufacture of film.

Verfahren zur herstellung von films. 1914. S. Halen. *Kunststoffe* v 4, p 343-4.

Has 15 patents on the manufacture of film for photographic purposes.

Photography

Color photography. 1914. M. C. Rypinski. *Illum Eng Soc Trans* v 9, p 591-2.

Contains 12 references dating from 1868 to 1913.

Kolloidchemie und photographie. 1917. Lüppe Cramer. *Kolloid Zeit* v 21, p 28-32, 77-81, 154-5.

Has 32 bibliographical footnotes on the colloid chemistry of photography.

New non-intermittent sensitometer. 1920. L. A. Jones. *J Fr Inst* v 189, p 303-29.

Bibliography on p 329 has 16 references on the measurement of the sensitivity of photographic plates and films.

Photographic materials and processes. 1916. B. V. Storr. Soc Chem Ind annual repts appl chem v 1, p 298-315. Reviews the literature for 1916 and gives 111 bibliographical footnotes.

Photographic materials and processes. 1917. B. V. Storr. Soc Chem Ind annual repts appl chem v 2, p 495-509. Reviews the literature for 1917 and gives 110 bibliographical footnotes.

Photographic materials and processes. 1918. B. V. Storr. Soc Chem Ind annual repts appl chem v 3, p 457-66. Reviews the literature for 1918 and gives 28 bibliographical footnotes.

Photographic materials and processes. 1919. Raymond E. Crowther. Soc Chem Ind annual repts appl chem v 4, p 508-22. Reviews the literature for 1919 and gives 65 bibliographical footnotes.

Photographic materials and processes. 1920. Raymond E. Crowther. Soc Chem Ind annual repts appl chem v 5, p 505-22. Reviews the literature for 1920 and gives 90 bibliographical footnotes.

Photographic materials and processes. 1921. F. F. Renwick. Soc Chem Ind annual repts appl chem v 6, p 539-64. Reviews the literature for 1921 and gives 102 bibliographical footnotes.

Photographic plate; the latent image. 1911 to 1913. Wilder D. Bancroft. J Phys Chem v 15, p 313-66, 551-79; v 16, p 29-68, 89-125; v 17, p 93-153. Over 200 footnote references on the latent image of a photographic plate.

Problèmes fondamentaux de la plaque photographique. 1923. Emile Mühlestein. Arch des Sci phys et nat ser 5, v 5, p 110-28. On p 119-28 there are 190 references on photographic plates.

Recent contributions of chemistry to photography. 1922. S. E. Sheppard. J Ind & Eng Chem v 14, p 820-3. There are 86 references on p 822-3 dating from 1914 to 1922.

Silver bromide grain of photographic emulsions. 1921. A. P. H. Trivelli and S. E. Sheppard. Van Nostrand, N.Y. 143p. Contains an extensive bibliography.

Phthalic anhydride

Phthalic anhydride derivatives. 1921. Max Philips. J Ind & Eng Chem v 13, p 247-9. A partial collection of names and references of phthalic anhydride derivatives.

Physical chemistry

Physical chemistry of the proteins. 1918. T. B. Robertson. Longmans, Green, London. 483p. Bibliographies are given at the ends of the chapters, totalling 1350 references.

Phytochemistry

The monardas; a phytochemical study. Bibliography. 1911. Nellie Wakeman. Wisconsin U Sci Ser Bul v 4, p 123-8. Has 26 references from 1832 to 1910. Each reference has an extensive abstract. Deals with chemical composition of oils from monarda fistulosa.

Pickling

Electrolytic pickling process. 1917. John Coulson. Am Electrochem Soc Trans v 32, p 237-43. There are 6 references on p 243.

Pigments

Composition, properties and testing of printing inks. 1915. U S Bur Stand Circ 53. 35p.

On p 34-5 there are 23 references to books on oils, inks and pigments.

Paints, pigments, varnishes and resins. 1916. R. S. Morrell. Soc Chem Ind annual repts appl chem v 1, p 180-96.

Reviews the literature for 1916 and gives 93 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1917. R. S. Morrell. Soc Chem Ind annual repts appl chem v 2, p 322-36.

Reviews the literature for 1917 and gives 57 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1918. L. M. Nash. Soc Chem Ind annual repts appl chem v 3, p 286-97.

Reviews the literature for 1918 and gives 47 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1919. J. K. B. Jenkins. Soc Chem Ind annual repts appl chem v 4, p 300-14.

Reviews the literature for 1919 and gives 79 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1920. A. de Waele. Soc Chem Ind annual repts appl chem v 5, p 309-31.

Reviews the literature for 1920 and gives 173 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1921. H. H. Morgan. Soc Chem Ind annual repts appl chem v 6, p 330-52.

Reviews the literature for 1921 and gives 106 bibliographical footnotes.

Pitch

Künstliche peche und asphalte. 1911. E. J. Fischer. Kunststoffe v 1, p 421-3, 447-52, 471-4.

Gives a few bibliographical footnotes and a list of German patents on artificial asphalts and pitches.

Technische asphalt- und pechpräparate. 1920. E. J. Fischer. Kunststoffe v 10, p 30-2, 39-43.

On p 31-2, 39-43, there are 112 patents with brief notes on asphalt and pitch preparations.

Plaster

Cements, limes and plasters. 1921. R. K. Hursh. J Ind & Eng Chem v 13, p 477-8. Describes 8 books that deal with cements, limes and plasters.

Special report on gypsum and gypsum cement plasters. 1899. George P. Grimsley and E. H. S. Bailey. Parks, Topeka, Kansas. (Kansas U Geol Sur Repts v 5). Contains a list of about 100 references on p 174-8.

Plaster of Paris

Nature of the changes involved in production and setting of plaster of Paris. 1907. W. A. Davis. Soc Chem Ind J v 26, p 737.

Lists 16 references quoted in the text.

Plaster of Paris—Continued

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cement, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous base, oxychloride and other oxysalt compounds.

Plastic flow

Aggregation and flow of solids, being the records of an experimental study of the micro-structure and physical properties of solids in various states of aggregation. 1921. George Beilby. Macmillan, London. 256p.

A list of 18 papers by the author on these subjects and referred to in this book is given on p 255-6; covers period from 1900 to 1921.

Plasticity

Plasticity of clay. 1914. N. B. Davis. Am Ceramic Soc Trans v 16, p 65-79.

Has 46 bibliographical footnotes.

Plastics

Die während des krieges patentierten und in deutschland bekannt gewordenen verfahren zur herstellung plastischer massen. 1919. S. Halen. Kunststoffe v 9, p 62-5, 78-81.

A tabulation of patents issued during and after the war on plastics. Patent methods are described briefly.

Herstellung von plastischen massen aus kasein. 1914. S. Halen. Kunststoffe v 4, p 301-2.

A list of 25 patents on the preparation of plastics from casein. Brief notes are given.

Neuen patentierten verfahren zur herstellung von plastischen massen. 1914. S. Halen. Kunststoffe v 4, p 285-7.

A tabulation of recent patents on the preparation of plastic masses.

Neuere plastische massen. 1921. S. Halen. Kunststoffe v 11, p 10-12.

Abstracts the most important patents issued during the last 5 years on plastic masses.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 136-70 there are about 500 U.S. and foreign patents on plastics classified as follows: on p 136-49 miscellaneous plastics and pulp and fiber compositions; on p 149-50 compositions with gelatinous, albuminous and similar bases; on p 150-2 adhesives, cork, linoleum and related compositions; on p 153-5 compositions for phonograph records, plastics, and vehicle tire fillings; on p 155-8 artificial leather, artificial silk and paper; on p 153-70 packing material, rubber and rubber compositions, rubber substitutes, cellulose, condensation products, and plastic compositions. On p 288-306 there are about 250 annotated U.S. and foreign patents on molded electrical insulation. These represent the more important patents and are on both processes and compositions used.

Synthetic resins and their plastics. 1923. Carleton Ellis. Chem Cat Co. N.Y. 514p. The footnotes form an excellent bibliography of the subject.

Verfahren zur herstellung von plastischer massen. 1911. Oskar Kausch. Kunststoffe v 1, p 62-5, 86-90, 109-11, 131-3, 170-2, 226-8, 250-2, 270-3, 290-2, 311-14, 332-6, 340-52.

Abstracts of the patent literature on the preparation of celluloid and other plastics.

Verfahren zur herstellung plastischer massen. 1914. S. Halen. Kunststoffe v 4, p 354-6, 365-8.

Tabulates patents with brief notes on the preparation of plastic masses.

Platinum

Bibliography of the metals of the platinum group; platinum, palladium, iridium, rhodium, osmium, ruthenium, 1748 to 1917. James L. Howe and H. C. Holtz. U.S. Geol Sur Bul 694. 558p. Contains about 4500 references.

Chemistry of platinum. 1921. G. R. Shaw. Econ Geol v 16, p 524-48.

Has 37 bibliographical footnotes.

Detection and estimation of platinum in ores. 1921. C. W. Davis. U S Bur Mines Tech Pa 270. 27p.

Has 28 bibliographical footnotes and on p 23-6 there is a selected bibliography of 34 references dating from 1876 to 1919.

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. Edel Erden & Erze v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver and platinum in dyes and paints.

Neue mitteilungen und arbeiten über das platin. 1921. S. Halen. Edel Erden & Erze v 2, p 57-9.

Reviews the literature of platinum for the years 1917 to 1920 and gives original references.

Neueste arbeiten betreffend die platinbegleitmetalle, iridium, palladium, osmium, rhodium, und ruthenium. 1921. S. Halen. Edel Erden & Erze v 2, p 145-6, 156-7.

Outlines the latest literature on the platinum group metals and their compounds: iridium, palladium, osmium, rhodium and ruthenium.

Platinum and allied metals. 1922. Great Britain. Imperial mineral resources bur. Mineral industry of the British Empire and foreign countries. London. 84p.

On p 73-84 there are 180 references on the mineral resources, metallurgy and chemistry of platinum and allied metals. Covers the war period 1913 to 1919.

Sampling and assay of the precious metals. 1913. Ernest A. Smith. Griffin, London. 460p.

On p 434-5 there is a bibliography of 18 references on the assaying and determination of platinum, gold and silver. Notes are given, and the references date from 1879 to 1912.

Study of the quality of platinum ware. 1915. George K. Burgess and P. D. Sale. U S Bur Stand Bul v 12, Sci Pa 254, p 289-316.

On p 314-16 there is a selected bibliography of 17 references with abstracts on the suitability and wearing qualities of platinum for use in laboratory work.

Ueber kolloides platin. 1916. A. Gutbier and A. Wagner. *Kolloid Zeit* v 19, p 298-302.
Has 53 bibliographical footnotes.

Poisoning, Industrial

Über gewerbliche vergiftungen und ihre verhütung. 1921. Ernst Brezina. *Chem Zeit* v 45, p 599-602, 624-6, 647-9, 694-6.
More than 60 references are given on p 696 on industrial poisoning by various substances.

Poisons

Toxicity of barium carbonate to rats. 1920. Erich W. Schwartz. *U S Dept Agr Bul* 915. 11p.
On p 10-11 there are 20 references on the poisonous qualities and uses of barium chloride.

Polarimetry

Anomalous rotatory dispersion. 1914. Leo Tschugaeff. *Faraday Soc Trans* v 10, p 70-9.
Has 34 bibliographical footnotes.

Influence of certain groups on rotatory power. 1914. H. Rupe. *Faraday Soc Trans* v 10, p 46-59.
Has 43 bibliographical footnotes.

Polishing compounds

Mining and preparation of Tripoli. 1920. Raymond B. Ladoo. *U S Bur Mines repts invest Nov.* 1910. mimeographed.
There are 13 references on p 8.

Diatomaceous earth. 1920. Norris Goodwin. *Chem & Met Eng* v 23, p 1158-60.
On p 1159-60, there are about 150 references on occurrence, tests of diatomaceous earth, patents on its use as filtering agent, building material, in paints, cements and polishing compounds.

Polymerization

Polymerization of Chinese wood oil. 1916. Carl L. Schumann. *J Ind & Eng Chem* v 8, p 5-15.
Has 45 bibliographical footnotes on China wood oil.

Portland cement

Plastics and molded electrical insulation. 1923. Emile Henning. *Chem Cat Co, N.Y.* 313p.
On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cements, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Potash

Extraction of potash from complex mineral silicates, such as feldspar, leucite and glauconite. 1918. E. C. Buck. *Chem & Met Eng* v 18, p 33-7, 90-5.
Covers the period from 1830 to 1917. Has about 250 references and includes patents.

Fertilizer resources of the United States. 1912. Washington, D.C. Govt Print off, *U S 62d Cong, Senate Doc* 190.
On p 78-106 there are about 800 references on the phosphate resources of the world, and on p 125 there are about 20 patents on the extraction of potash from minerals.

Industrial readjustments of certain mineral industries affected by the war. 1920. U.S. Tariff Comm, *Tariff Information series no. 21.* 320p.
On p 206-7 there are 21 references on potash.

Influence of gypsum upon the solubility of potash in soils. 1918. Paul R. McMiller. *J Agr Research* v 14, p 61-6.
There are 8 references on p 65-6.

La production de la potasse et de l'alumine à partir des leucites italiennes au moyen du chlore. 1922. U. Pomilio. *Chimie & Ind* v 7, p 425-37.
On p 437 there are 48 references on the production of potash and aluminum from leucites.

Literature of the potash industry, 1912 to 1917. 1918. F. W. Bruckmiller. *Chem & Met Eng* v 19, p 447-9.
There are 159 references arranged by subject on statistics, kelp, brines, wood ashes, and cement dust.

Potash. 1922. Sidney J. Johnstone. *Imperial Inst Monographs with special references to the British Empire.* Murray, London. 122p.
On p 114-22 there are 179 references on potash resources and industry. Includes potash from cement mill and other smokes and fumes.

Potash as a byproduct from the blast furnace. 1916. R. J. Wysor. *Am Inst Min Eng Trans* v 56, p 257-88.
On p 286-8 there are about 50 references from 1826 to 1916.

Recovery of potash from iron blast furnaces and the cement kilns by electrical precipitation. Bibliography. Linn Bradley. *J Ind & Eng Chem* v 10, p 837-8.
A brief bibliography of 38 references from 1916 to 1918.

Study of the determination of potash chiefly concerned with the Lindo-Gladfield method. 1917. P. L. Hibbard. *J Ind & Eng Chem* v 9, p 504-13.
There are 30 references on p 512-13.

Potassium

Electric furnace; its origin, transformations and applications. 1905. *Faraday Soc Trans* v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Pottery

See also Ceramics

Clayworker's handbook. ed 3. 1921. Alfred B. Searle. Griffin, London.
Bibliography on p 344-54 gives references to standard books and journals dealing directly with some branch of clay working. 326 references.

Selected bibliography of books in the English language dealing with ceramic chemistry and the ceramic industries. 1921. *J Ind & Eng Chem* v 13, p 476-8.
Contains about 30 titles of books dealing with clay and clay products, glass, vitreous enamels, refractories, cements, limes and plasters, with a review of each.

Preservatives and preservation

Preservation of eggs. 1920. Hilton I. Jones and Robert DuBois. *J Ind & Eng Chem* v 12, p 751-7.

On p 754-7 there is a list of references on the sterilization and preservation of eggs.

Margarine. 1920. William Clayton. Longmans, Green, London, 187p.

Bibliography on p 144-79: oils and fats used in the manufacture of margarine, p 144-50; edible hydrogenated oils, p 150-1, examination of milk, pasturization, sterilization and inoculation, p 151-6; artificial milk, p 156; theory of emulsification, butter, renovated butter, p 157-62; analysis of butter and margarine p 163-72; deterioration of butter and margarine in storage, use of preservatives p 173-6; nutritional chemistry and vitamins on p 176-9. In all about 700 references.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

Beginning on p 391 there is a list of 100 references from 1899 to 1911 on the analysis of food preservatives.

Producer gas. See Gas producers

Proteases

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 329-33 there are 90 references from 1880 to 1911 on the analysis of proteins and proteases.

Proteins

Chemical constitution of the proteins. 1917. Robert H. A. Plimmer. Longmans, Green, London.

There is a bibliography of about 450 references on p 137-65.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On pages 329-33 there are 90 references from 1880 to 1911 on the analysis of proteins and proteases.

Physical chemistry of the proteins. 1918. T. B. Robertson. Longmans, Green, N.Y. 483p.

Bibliographies are given at the ends of the chapters, totalling 1350 references.

Soaps and proteins; their colloid chemistry in theory and practice. 1921. Martin H. Fischer. Wiley, N.Y. 272p.

A list of 11 papers consulted is given on p 257. There are also about 100 footnote references cited throughout the book.

Synthesis of some protein salts. 1909. Walter H. Eddy. Eschenbach, Easton, Pa. 63p.

There are 17 references on p 61.

Pulp. See Woodpulp

Pulverized coal

Pulverized coal. 1914. H. M. Craig. *Am Soc Mech Eng J* v 36, p lv-lvii.

A bibliography of about 150 references dating from 1875 to 1913.

Pulverized coal in metallurgical furnaces. 1913. J. Lord and others. *Eng Soc W Pa Pro* v 29, p 417.

Has 15 references dating from 1901 to 1913.

Pulverized coal systems in America. 1922. Leonard C. Harvey. Dept of Sci & Ind Research, Fuel Research Board, spec rept no 1, London. 117p.

A bibliography of about 400 references with brief notes, up to Nov 1920.

Pyridine

Dyestuffs containing the pyridine ring. 1918. W. H. Harrison. *Color Tr J* v 2, p 229-33.

Bibliographical references are given throughout the text.

Pyrites

Sulphur, pyrite and sulphuric acid. 1911. E. C. Holden. *Mineral Ind* v 20, p 678-94.

On p 694 there are 12 references for 1911.

Pyrometers and pyrometry

Disappearance of the filament and diffraction effects in improved forms of an optical pyrometer. 1923. C. O. Fairchild and W. H. Hoover. *Optical Soc Am J* v 7, p 543-79.

There are 22 references on p 22.

Méthodes et appareils utilisés pour la détermination des points critiques des métaux et alliages. 1923. Pierre Dejean. *Chimie et Ind* v 9, p 888-900.

On p 899-900 there are 62 references on pyrometers and thermal analysis.

Methods of measuring temperature. 1918. Ezer Griffiths. Lippincott, Philadelphia. 76p.

Each chapter is accompanied by references.

Methods of pyrometry. 1904. C. W. Waidner. *Eng Soc W Pa Pro* v 20, p 313-402.

Has 133 bibliographical footnotes covering the period from 1836 to 1903.

New study of the leuoscope and its application to pyrometry. 1920. Irwin G. Priest. *Optical Soc Am J* v 4, p 448-95.

On p 493-4 there is a complete bibliography of the leuoscope. Dates from 1863 to 1883 and has 10 references.

Note on temperature scale between 100° and 500°C. 1910. Charles W. Waidner. *U S Bur Stand Bul* v 7, p 1-11.

On p 9 there are 15 references on boiling points of substances for use as standards in thermometry.

Platinum resistance thermometry at high temperatures. 1910. Charles W. Waidner. *U S Bur Stand Bul* v 6, p 149-230.

On p 223-30 there are 138 references on electrical resistance thermometry.

Pyrometers. Bibliography. 1918. Robert Hadfield. *Faraday Soc Trans* v 13, p 362-72.

A tabulated list of references from 1886 to 1917, including British and American patents. There are about 125 references exclusive of patents.

Pyrometry. 1912. *Eng Soc West Pa Pro* v 28, p 566-7.

An annotated bibliography of 22 references.

Pyrometry. 1904. *Iron & Steel Inst J* v 65, p 154.

An annotated bibliography of 80 references covering the period 1871 to 1904.

Pyrometry. Papers and discussions of a symposium on pyrometry held by the Am Inst Min Eng. 1920. Published by Am Inst Min Eng. 701p.

The contents on p V-VI form a valuable bibliography of pyrometry. There are about 60 papers listed.

Temperature measurements in an experimental carborundum furnace. 1911. H. W. Gillett. *J Phys Chem* v 15, p 213-395.

Bibliography on p 303-5 has 97 references dealing with temperature measurements and pyrometry.

The measurement of high temperatures. 1912. G. K. Burgess and H. LeChâtelier. Wiley, N.Y. 510p.

Bibliography on p 465-88 contains about 600 references on pyrometers, heat measurement, radiation, laboratory furnaces, etc.

Pyroxylin

Effects of heat on celluloid and similar materials. 1917. H. N. Stokes and H. C. P. Weber. *U S Bur Stand Tech Pa* 98, 40p.

On p 40 there are 26 references on nitro-cellulose and pyroxylin plastics, and the spontaneous combustion of celluloid.

Nitrocellulose. 1911. Edward C. Worden. Van Nostrand, N.Y. 2 v.

On p 773-92 there are about 1150 U.S. and British patents on pyroxylin plastics.

Q

Quartz

Quarz und sand als rohstoffe für die feinkeramik. 1922. Max Pulfrich. *Tonindustrie Zeit* v 46, p 936-8.

On p 937-8 there are 24 references on quartz and sand in ceramics.

Quinazoline

Further investigations in the quinazoline group. 1906. Harvey A. Seil. Eschenbach, Easton, Pa. 36p.

There are 31 references on p 35-6.

R

Radioactive materials

Die patentierten verfahren zur gewinnung radioaktiven stoffe. 1919. Kausch. *Edel Erden & Erze* v 1, p 37-40, 66-8.

Abstracts patented methods of obtaining radioactive materials.

Ueber den kolloiden zustand der radioaktiven stoffe. 1917. Hilary Lachs. *Kolloid zeit* v 21, p 165-76.

Has 48 bibliographical footnotes on the colloid chemistry of radioactive substances.

Radioactivity

Beiträge zur kenntnis natürlicher gasausströmungen. 1913. Emerich Czako. Braun, Karlsruhe. 85p.

On p 83-5 there are 52 references to literature on the radioactivity and helium content of natural gas flows.

Radioactivity of some Canadian mineral springs. 1917. Canada. Mines Branch Bul 16.

Bibliography on p 53-4 consists of 25 references to the principal books on radium and radioactivity and the chief papers on the radioactivity of natural waters.

Radiothorium

Die neuesten arbeiten über thorium, thoriumverbindungen, mesothorium, radiothorium usw. 1921. S. Halen. *Edel Erden & Erze* v 2, p 83-5.

Reviews the literature on thorium and its compounds, mesothorium, radiothorium, etc., for the period 1917 to 1920.

Radium

Bibliography of radium, its uses and results from its discovery up to January 1922. U S Radium Corporation. 132p.

Concentration of mesothorium and radium by fractional crystallization. 1920. John L. Niernan. *J Phys Chem* v 24, p 192-200.

There are 12 references on p 200.

Die neuesten forschungen auf dem gebiete des radiums und seiner emanation. 1921. S. Halen. *Edel Erden & Erze* v 2, p 74-5.

Outlines the literature for the last 5 years on radium and its emanation.

Radioactivity of some Canadian mineral springs. 1917. Canada. Mines Branch Bul 16.

Bibliography on p 53-4 consists of 25 references to the principal books on radium and radioactivity and the chief papers on the radioactivity of natural waters.

Radium emanation

Die neuesten forschungen auf dem gebiete des radiums und seiner emanation. 1921. S. Halen. *Edel Erden & Erze* v 2, p 74-5.

Outlines the literature for the last 5 years on radium and its emanation.

Raffinose

History of raffinose, its discovery and methods of preparation. 1923. T. Swann Harding. *Sugar* v 25, p 308-10.

There are 40 references on p 310.

Ramsay, William

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeléeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Remsen, and Fischer.

Sir William Ramsay. Bibliography. 1918. Richard B. Moore. *J Fr Inst* v 186, p 50-5.

About 140 references to papers by Sir William Ramsay.

Rare earths

Aluminum and its congeners including the rare earth metals. 1917. H. F. V. Little. Griffin, London. 485p.

Contains numerous bibliographical footnotes.

Anwendung der seltenen erden in der färberei und zeugdruckerei. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 73-5, 88-9.

Abstracts of patents on the use of rare earths in dyeing and fabric printing.

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver, and platinum in dyes and paints.

Rare earths—Continued

Edelmetalle und verbindungen der seltenen erden als kontaktstoffe. 1919. S. Halen. *Edel Erden & Erze* v 1, p 51-3, 76-9, 89-91, 102-5, 111-15.

Abstracts the patent literature on rare earths as catalytic agents in contact processes: sulphuric acid, hydrogenation of fats and oils, preparation of chlorine, catalytic ammonia, ammonia oxidation and production of organic compounds.

Metals of the rare earths. 1919. James F. Spencer. Longmans, Green, London.

References are given on p 241-62. More than 1029 references dating 1800 to 1918 on cerium, yttrium and the thorium group.

Neue arbeiten auf dem gebiete der seltenen erden und ihre verbindungen. 1921. S. Halen. *Edel Erden & Erze* v 2, p 185-6.

Outlines the literature of the rare earths in general, then that on cerium, yttrium, gadolinium, holmium, scandium and samarium for the years 1917 to 1920.

Neuere untersuchungen über seltene erden. 1920. M. Blosshke. *Edel Erden & Erze* v 1, p 207-9.

Gives abstracts of recent literature on the rare earths.

Uebersicht der die verwendung von edelmetallen und edelerden in der beleuchtungsindustrie betreffenden deutschen patente. 1923. Oelker. *Edel Erden & Erze* v 4, p 5-6, 15-16.

A list of 20 German patents with abstracts on the use of noble metals and rare earths in gas lighting.

Wave lengths longer than 5500Å in the arc spectra of yttrium, lanthanum and cerium, and the preparation of pure rare earth elements. 1921. C. C. Kiess and others. *U S Bur Stand Sci Pa* 421, v 17, p 317-51.

Contains about 35 bibliographical footnotes.

Recrystallization. See Crystallization**Refraction**

Réfraction et dispersion moléculaires. 1922. R. Cornubert. *Rev gen des Sci* v 33, p 471-83.

Has numerous footnotes indicating original sources of information on refraction and dispersion of organic compounds.

Refractory materials

Chrome refractories. 1922. J. Spotts McDowell and H. S. Robertson. *Am Ceramic Soc J* v 5, p 864-87.

On p 882-7 there is a chronological list of about 100 references on chromium deposits and refractories, especially chromite from 1882 to 1921. Also contains a number of valuable bibliographical footnotes.

Deterioration of refractory materials in the iron and steel industries. 1917. H. B. Cronshaw. *Faraday Soc Trans* v 12, p 237-49.

On p 247-9 there are about 50 references on refractories for metallurgical furnaces.

Glass, refractories. 1918. W. J. Rees. *Soc Chem Ind annual repts appl chem* v 3, p 184-208.

Has 70 bibliographical footnotes for the year 1918. Text abstracts these references.

Glass, refractory materials, ceramics and building materials. 1917. W. J. Rees. *Soc Chem Ind annual repts appl chem* v 2, p 204-41.

Has 131 footnote references for the year 1917. Abstracts are given in the text.

Handbuch der eisenhüttenkunde. ed 5. 1906. A. Ledebur. Felix, Leipzig.

There are long bibliographies at the ends of the chapters. These bibliographies are on: fuels, refractories and furnaces, slags, chemistry of the metallurgy of iron, blast furnace, iron, steel and rolling mills, etc.

Magnesite deposits of Washington. 1921.

G. E. Whitwell and E. N. Patty. *Washington Geol Sur Bul* 25.

Bibliography on p 180-9 has 160 references from 1882 to 1920 and deals with the preparation and uses of magnesite.

Plastics and molded electrical insulation.

1923. Emile Hemming. *Chem Cat Co, N.Y.* 313p.

On p 17-29 there are about 150 U. S. and foreign patents on ceramics, magnesite and other refractories, with notes.

References to papers dealing with laboratory forms of electric furnaces. 1917. *Faraday Soc Trans* v 12, p 213-16.

About 80 references on laboratory furnaces, refractories for electric furnaces, and the manufacture of products in the electric furnace.

Refractories. 1919. W. J. Rees. *Soc Chem Ind annual repts appl chem* v 4, p 178-88.

Reviews the literature for 1919 and gives 33 bibliographical footnotes.

Refractory materials. 1920. W. E. S. Turner. *Soc Chem Ind annual repts appl chem* v 5, p 203-15.

Reviews the literature for 1920 and gives 60 bibliographical footnotes.

Refractory materials. 1921. W. E. S. Turner. *Soc Chem Ind annual repts appl chem* v 6, p 211-27.

Reviews the literature for 1921 and gives 57 bibliographical footnotes.

Refractory materials. 1916. Robert Hadfield. *Faraday Soc Trans* v 12, p 86-115.

On p 98-9 there is a list of 55 books on refractories dating from 1862 to 1916; and on p 100-8 there are about 80 references from 1887 to 1916 on the same subject.

Refractory materials; a general discussion held by the Faraday Society, Nov. 8, 1916. *Faraday Soc Trans* v 12, May 1917.

Bibliography of books and articles relating to refractories from 1862 to 1916 on p 14-24. About 75 references. Bibliography of references dealing with electric furnaces and refractories on p 129-32. About 75 references. Bibliography of about 70 references on refractories used in the iron and steel industries on p 163-5.

Texture of firebrick. 1916. J. W. Mellor. *Faraday Soc Trans* v 12, p 137-47.

Has about 60 bibliographical footnotes.

Relativity

Il nucleo atomico. 1921. Rita Brunetti. *Nuovo Cimento* v 22, p 215-45.

On p 242-5 there is a bibliography of 71 references on the radiation of X rays, disintegration of alpha particles of atomic nuclei, Moseley's law and Bohr's theorem, and equivalence and relativity theories.

Resmen, Ira

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeléeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Resmen, and Fischer.

Resins

See also *Plastics*

Harze. 1912. Max Schall. Kunststoffe v 2, p 45-8, 71-4, 93-6.

Reviews the patent literature on resins.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 139-40 there is a list of 60 books dating from 1891 to 1921 on oils, essential oils, varnish and resins.

Paints, pigments, varnishes and resins. 1916. R. S. Morrell. Soc Chem Ind annual repts appl chem v 1, p 180-96.

Reviews the literature for 1916 and gives 93 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1917. R. S. Morrell. Soc Chem Ind annual repts appl chem v 2, p 322-36.

Reviews the literature for 1917 and gives 57 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1918. L. M. Nash. Soc Chem Ind annual repts appl chem v 3, p 286-97.

Reviews the literature for 1918 and gives 47 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1919. J. H. B. Jenkins. Soc Chem Ind annual repts appl chem v 4, p 300-14.

Reviews the literature for 1919 and gives 79 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1920. A. de Waele. Soc Chem Ind annual repts appl chem v 5, p 300-31.

Reviews the literature for 1920 and gives 173 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1921. H. H. Morgan. Soc Chem Ind annual repts appl chem v 6, p 330-52.

Reviews the literature for 1921 and gives 106 bibliographical footnotes.

Patentierten verfahren zur herstellung löslicher, harzartiger Massen aus phenolen und aldehyden u. dgl. 1914. Oskar Kausch. Kunststoffe, v 4, p 268-9.

A tabulation of patents with notes on the preparation of soluble resinous substances from phenols and aldehydes.

Rubber, resins, paints and varnishes. 1921. R. S. Morrell and A. de Waele. Bailière, London. 236p.

Bibliography on p 229-30 has about 40 references.

Synthetic resins. 1914. L. V. Redman and others. J Ind & Eng Chem v 6, p 3-16.

On p 15-16 there are 52 references on phenols, methylenes and their condensation products.

Synthetic resins and their plastics. 1923. Carleton Ellis. Chem Cat Co, N.Y. 514p.

The footnotes form an excellent bibliography of the subject.

Verfahren zur herstellung von kunstharzen u dgl aus phenol und formaldehyd. 1913. O. Kausch. Kunststoffe v 3, p 301-2.

A tabulation of German, French, British and U.S. patents with brief notes on the preparation of artificial resins from phenol and formaldehyde.

Rhamnose

History of rhamnose, its discovery and methods of preparation. 1923. T. S. Harding. Sugar v 25, p 82-3.

On p 83 there are 36 references.

Rhodium

Bibliography of the metals of the platinum group; platinum, palladium, iridium, rhodium, osmium, ruthenium, 1748 to 1917. 1919. James L. Howe and H. C. Holtz. U S Geol Sur Bul 694. 558p.

Contains about 4500 references.

Neueste arbeiten betreffend die platinbegleitmetalle, iridium, palladium, osmium, rhodium und ruthenium. 1921. S. Halen. Edel Erden & Erze v 2, p 145-6, 156-7.

Outlines the latest literature on the platinum group metals and their compounds: iridium, palladium, osmium, rhodium, and ruthenium.

Richards, Theodore William

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeléeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Resmen, and Fischer.

Roasting

Important factors in blast roasting. 1912. H. B. Pulsifer. Met & Chem Eng v 10, p 154.

About 60 references including 15 patents on blast roasting especially as applied to the smelting of lead and copper ores.

Rocks-analysis

Chemical and physical processes involved in the formation of residual clay. 1911. H. O. Buckman. Am Ceramic Soc Trans v 13, p 336-84.

On p 364-79 there are 221 references on the weathering of rock and on p 379-84 there are 56 references on the analysis of fresh rocks and their residues.

Rolling mills

Bibliography on the measurement and calculation of the power required to roll steel. 1913. Eng Sec W Pa Pro v 29, p 444.

Contains 67 references dating from 1873 to 1913 on tests on power requirements of rolling mills.

Handbuch der eisenhüttenkunde. ed 5. 1906. A. Ledebur. Felix, Leipzig. 3 v.

There are long bibliographies at the ends of the chapters. These bibliographies are on: fuels, refractories and furnaces, slags, chemistry of the metallurgy of iron, blast furnace, iron, steel and rolling mills, etc.

Roofing paper. See Paper, roofing

Rubber

See also Butadiene, vulcanization

Analysis of rubber. 1922. John B. Tuttle. Chem Cat Co, N.Y. 155p.

An extensive bibliography of 501 references is given on p 121-38. Arranged by author and deals with the analysis of rubber; chemical and physical testing; vulcanization and the use of accelerators.

Caoutchouc et gutta-percha. 1911. Eugene Tassilly. Paris. 395p.

There are more than 150 references on p 381-6 on rubber and gutta-percha.

Chemistry of rubber. 1913. B. D. Porritt. Van Nostrand, N.Y. 96p.

There is a bibliography of 179 references on p 88-93.

Der kautschuk. 1912. Rudolf Ditmar. Springer, Berlin. 140p.

Gives references at the beginning of each chapter. Deals with the colloid chemistry of rubber. There are about 200 patents on the regeneration of rubber on p 114-24.

India rubber. 1916. H. P. Stevens. Soc Chem Ind annual repts appl chem v 1, p 197-225.

There is a bibliography of 91 references on p 223-5.

India rubber. 1917. H. P. Stevens. Soc Chem Ind annual repts appl chem v 2, p 337-52.

Reviews the literature for 1917 and gives 65 bibliographical footnotes.

India rubber. 1918. D. F. Twiss. Soc Chem Ind annual repts appl chem v 3, p 298-320.

Reviews the literature for 1918 and gives 83 bibliographical footnotes.

India rubber. 1919. D. F. Twiss. Soc Chem Ind annual repts appl chem v 4, p 315-46.

Reviews the literature for 1919 and gives 120 bibliographical footnotes on latex, synthetic rubber, vulcanization, etc.

India rubber. 1920. Henry P. Stevens. Soc Chem Ind annual repts appl chem v 5, p 332-50.

Reviews the literature for 1920 and gives 63 bibliographical footnotes.

India rubber. 1921. B. D. Porritt. Soc Chem Ind annual repts appl chem v 6, p 353-78.

Reviews the literature for 1921 and gives 131 bibliographical footnotes.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. Kausch. Kunststoffe v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Neuere lösungsmittel für harze und lacke, zelluloseester, kautschuk, usw. 1916. E. J. Fischer. Kunststoffe v 6, p 244-6, 259-61.

A tabulation of patents with brief notes on solvents for lacquer, cellulose ester, rubber, etc.

Neuere verfahren zum regenerieren von altkautschuk. 1922. S. Halen. Kunststoffe v 12, p 57-8.

Abstracts 12 patents on the regeneration of waste rubber.

Physics of rubber. 1922. W. B. Wiegand. J Ind & Eng Chem v 14, p 854-5.

Has 39 references for the years 1920 to 1922.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 158-70 there are about 150 annotated U.S. and foreign patents on packing material, rubber and rubber compositions, rubber substitutes, cellulose, condensation products, and plastic compositions.

Plantation rubber and the testing of rubber. 1920. George S. Whitby. Longmans, Green, London. 559p.

There is a bibliography of about 900 references on p 503-47.

Regenieren und anderweitige verwertung von vulkanisierten kautschukabfällen. 1911. E. J. Fischer. Kunststoffe v 1, p 477-8.

A list of 143 patents on the regeneration and utilization of waste vulcanized rubber, dating from 1890 to 1910.

Regenerierung von altkautschuk. 1911. Oskar Kausch. Kunststoffe v 1, p 146-51.

Gives abstracts of patents on the regeneration of old rubber.

Rubber, resins, paints and varnishes. 1921. R. S. Morrell and A. de Waele. Bailière, London. 236p.

Bibliography on p 229-30 has about 40 references.

Studies in rubber vulcanization. The relation between chemical and physical state of rubber vulcanized in the presence of certain organic accelerators. 1922. N. A. Shepard and Stanley Krall. J Ind & Eng Chem v 14, p 951-6.

Has 30 bibliographical footnotes.

Über den künstlichen kautschuk von wissenschaftlichen standpunkt. 1912. Carl Harries. Kunststoffe v 2, p 241-6.

On p 245-6 there are 26 references on the chemistry and constitution of rubber.

Rubber fabrics

Dichtungsmittel für schadhaft gewordene luftschläuche. 1917. Max Schall. Kunststoffe v 7, p 4-7.

Lists 79 patents with brief notes on materials used to prevent leaks in pneumatic tires.

Rubber substitutes

Hartgummiersatzmassen ohne kautschukzusatz. 1918. E. J. Fischer. Kunststoffe v 8, p 1-7.

Gives a tabulation of U.S. and foreign patents on hard rubber substitutes containing no rubber.

Kautschuk und guttapercha ersatzstoffe. 1911. Oskar Kausch. Kunststoffe v 1, p 408-11, 430-3, 474-6.

A review of the patent literature on substitutes for rubber and gutta-percha.

Verfahren zur herstellung von faktis und anderen kautschukersatzstoffen. 1914. S. Halen. Kunststoffe v 4, p 315-16.

Gives 39 patents with brief notes on rubber substitutes.

Rubber synthesis

Die synthese des kautschuks. 1912. Rudolf Ditmar. Steinkopff, Dresden. 124p.

On p 57-124 there are extensive abstracts of the most important patents on the synthesis of rubber.

Die während des krieges bekannt gewordenen patentierten verfahren zur synthetischen herstellung von kautschuk. 1919. O. Kausch. Kunststoffe v 9, p 33-5.
Gives brief abstracts of 22 patents issued during the war on synthetic rubber.

Künstlicher kautschuk für elektrische isolierungszwecke. 1922. Kurt Geisler. Springer, Berlin, 89p.

On p 88-9 there are 44 references on the testing of rubber and synthetic rubber and their uses as electric insulators.

Tabellarische uebersicht der patente betreffend die kautschuksynthese und die hierzu erforderlich ausgangsstoffe. 1914. Oskar Kausch. Kunststoffe v 4, p 69-72.

Lists patents with brief notes on the preparation of synthetic rubber.

Tabellarische uebersicht der patente betreffend die kautschuksynthese und die herstellung der hierzu erforderlich ausgangsstoffe. 1915. Oskar Kausch. Kunststoffe v 5, p 123-5, 137-8.

Tabulates patents with notes on the preparation of synthetic rubber.

Tabellarische uebersicht der patente und wichtigsten veröfentlichungen betreffend die kautschuksynthese und die herstellung der hierzu erforderlichen ausgangsstoffe. 1912. Oskar Kausch. Kunststoffe v 2, p 340-6.

A tabulation of patents and articles on the preparation of synthetic rubber.

Ruthenium

Bibliography of the metals of the platinum group; platinum, palladium, iridium, rhodium, osmium, ruthenium, 1748 to 1917. 1919. James L. Howe and H. C. Holtz. U S Geol Sur Bul 694. 558p.
Contains about 4500 references.

Neueste arbeiten betreffend die platinbegleitmetalle, iridium, palladium, osmium, rhodium und ruthenium. 1921. S. Halen. Edel Erden & Erze v 2, p 145-6, 156-7.

Outlines the latest literature on the platinum group metals and their compounds: iridium, palladium, osmium, rhodium, and ruthenium.

S

Saccharin

Reading list on saccharin. 1920. E. D. Greenman. Special Libraries v 11, p 106-12.

Has 128 references on saccharin and its relation to sugar.

Salvarsan

Review of the American patent literature on arspphenamine (salvarsan) and other arsenicals. 1919. H. F. Lewis. J Ind & Eng Chem v 11, p 141-5.

About 50 patents are given in footnotes.

606 ou salvarsan. 1921. Toussaint. Chimie & Ind v 6, p 296-304.

Has 29 bibliographical footnotes and a bibliography of 34 references on p 304 on salvarsan.

Samarium

Neue arbeiten auf dem gebiete der seltenen erden und ihre verbindungen. 1921. S. Halen. Edel Erden & Erze v 2, p 185-6.

Outlines the literature of the rare earths in general, then that on cerium, yttrium, gadolinium, holmium, scandium and samarium for the years 1917 to 1920.

Sampling

Bibliography of literature on sampling. 1922. W. J. Sharwood and M. W. v Bernewitz. U S Bur Mincs repts invest 2336. 85p mimeographed.

About 1100 references for the last 30 years on sampling at mines, mills, smelters, power plants, pumping stations, and refineries. Arranged by author with a subject index. Patents are arranged numerically.

Sampling and assay of the precious metals. 1913. Ernest A. Smith. Griffin, London. 460p.

On p 434-5 there is a bibliography of 18 references on the assaying and determination of platinum, gold and silver. Notes are given, and the references date from 1879 to 1912.

Sampling and assaying. 1909. F. F. Colcord. Mineral Ind v 18, p 781-9.

There is a bibliography of 12 references for the year 1909 on p 789.

Sampling and assaying in 1911. D. M. Liddell. Mineral Ind v 20, p 885-99.

Numerous bibliographical footnotes are given, also a bibliography of 20 references on p 898-9 on sampling, assaying and analysis.

Standard methods for sampling and analyzing coal. Bibliography. 1917. A. C. Fieldner and others. Pan Am Sci Cong (2d, Washington D.C.) Pro v 8, p 855-6.

Has 29 references. There are also 24 bibliographical footnotes to the text on p 849-55.

Sand

Quarz und sand als rohstoffe für die feinkeramik. 1922. Max Pulfrich. Tonindustrie Zcit v 46, p 936-8.

On p 937-8 there are 24 references on quartz and sand in ceramics.

Saponification

See also Soap

Some problems connected with the saponification of fatty oils. 1923. H. M. Langton. Chem & Ind v 42, p 51T-7T.
Has 52 bibliographical footnotes.

Velocity of saponification of certain elements. 1918. Ernest Anderson and H. B. Pierce. J Phys Chem v 22, p 44-67.

Has 31 bibliographical footnotes.

Scandium

Neue arbeiten auf dem gebiete der seltenen erden und ihre verbindungen. 1921. S. Halen. Edel Erden & Erze v 2, p 185-6.

Outlines the literature of the rare earths in general, then that on cerium, yttrium, gadolinium, holmium, scandium and samarium for the years 1917 to 1920.

Seawater

Ueber die adsorption von natriumaurichlorid an kohle und die bestimmung des goldes im meerwasser. 1918. Hellmuth Koch. *Kolloid Zeit* v 22, p 1-22.
On p 22 there are 12 references on gold in seawater.

Seaweed

Fertilizer resources of the United States. 1912. Washington, D.C. Govt Print Office. U S 62d Congress, Senate Doc no 190.

On p 270-6 there is a reference list of papers concerning the economic uses of algae and concerning the salts derived from ashes; about 170 references dealing with the kelps of the coasts of the U.S. and Alaska.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitt. 1913. Kausch. *Kunststoffe* v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Literature of the potash industry, 1912 to 1917. 1918. F. W. Bruckmiller. *Chem & Met Eng* v 19, p 447-9.

159 references arranged by subject on statistics, kelp, brines, wood ashes, and cement dust.

Segar cones

Physical chemistry of segar cones. 1913. Robert B. Sosman. *Am Ceramic Soc Trans* v 15, p 482-8.
Has 28 bibliographical footnotes.

Selenium

Neue forschungen betreffend das selen und seine verbindungen. 1921. S. Halen. *Edel Erden & Erze* v 2, p 105-7.
Outlines the literature on selenium, its analysis, inorganic and organic compounds.

Sewage purification

Abwasserbeseitigung von gewerben und gewerbereichen städten. 1909. Albert Schiele. Hirschwald, Berlin. 932p.
There are 80 references on sewage disposal and purification on p XXV-XXVIII.

Activated sludge process of sewage treatment; a bibliography of the subject with brief abstracts. 1921. James E. Porter. General Filtration Co, Rochester.

Bestimmung der fäulnisfähigkeit biologisch gereinigte abwässer. 1908. R. Welterd and K. Rohlich. *Mitt Prüf Wasserversorg Berlin* v 10, no 2, p 26-41.

On p 41 there are 24 references on the purification of sewage that has been purified by the bacteriological method.

Chemistry of sanitation. 1922. A. M. Bushwell. *J Ind & Eng Chem* v 14, p 840-2.
On p 842 there are 41 references on the production of potable water, stream pollution and sewage purification. 1917 to 1922.

Hydraulics, sanitation, public health. 1917. D. K. Boyd. *Am Inst Arch J* v 5, p 459-71.

About 250 references on water supply and treatment, plumbing, swimming pools, sewage disposal, sanitation, etc.

Methods and devices for bacterial treatment of sewage. 1908. W. M. Venable. Wiley, N.Y. 236p.

On p 10-19 there is a descriptive review of a few standard works and a list of articles on sewage purification published be-

tween June 1905 and Oct. 1907. About 70 references.

Microbiology and theory of activated sludge. 1923. A. M. Buswell and H. L. Long. *Am Water Works Assoc J* v 10, p 309-21.

There are 23 references on p 321.

Miles acid process of sewage treatment. 1921. F. W. Mohlman. *Eng Soc W Pa Pro* v 37, p 345-64.

There are 12 annotated references on p 363-4.

References on the use of copper sulphate for reducing the pathogenicity of sewage and sewage effluents. 1905. George A. Johnson. *New Eng Water Works Assoc J* v 19, p 525.

Consists of 14 references.

Sewage disposal and treatment; references to books and magazine articles. 1910. Pittsburgh Carnegie Library mo bul v 15, p 488-578.

A comprehensive bibliography of about 900 references with brief notes.

Sewerage and sewage treatment. 1922. H. E. Babbitt. Wiley, N.Y. 531p.

On p 493-4 there is a bibliography of 26 references from 1913 to 1921 on the disinfection of sewage, lime and electrolytic treatment and acid precipitation. There is also a bibliography of 47 references from 1915 to 1921 on p 480-1 on activated sludge.

Trocknung des klärschlammes. 1911. F. Spillner. *Mitt Prüf Wasserversorg Berlin* v 14, no 2, p 27-84.

Has numerous bibliographical footnotes on drying sewage sludge.

Water and sewage purification. 1919. A. C. Houston. *Soc Chem Ind annual repts appl chem* v 4, p 465-88.

Reviews the literature for 1919 and gives 13 bibliographical footnotes.

Sewer gas

Sewer gas and its influence upon health. 1898. Herman A. Roehling. Biggs, London. 224p.

On p 87-99 there are 180 references to English, French and German literature.

Shellac

Shellackersatzmittel. 1912. E. J. Fischer. *Kunststoffe* v 2, p 151-4, 164-6.

Gives abstracts from the patent literature on substitutes for shellac.

Shoe polish

Herstellung von stiefelwische und schuhcreme. 1919. Marschalk. *Kunststoffe* v 9, p 73-5, 103-5.

Gives abstracts of patents on shoe cloths and polishes.

Silica

Bibliographie sur l'industrie du verre de silice. 1921. G. Flusin. *Chimie & Ind* v 5, p 270.

Has 35 references and a list of 81 patent references relating to the glass industry.

Bibliography of fused silica. 1915. A. E. Marshall and W. W. Winship. Thermal Syndicate, New York. 15p.

There are about 70 references from 1907 to 1915.

Silica and the silicates. 1921. James A. Audley. Baillière, London. 374p.

Bibliographies are at the ends of the various sections, more than 100 references in all. Silica, p 45; silicates, p 122; lime, cement

and mortar, p 167; ceramic industries, p 272; glass and enamels, p 334; and miscellaneous applications, p 357.

Verre de silice: les bases théoriques de l'industrie. 1920. *Chimie & Ind* v 3, p 729-49.

There is a classified bibliography on p 748-9 of about 125 references on silica.

Silicates

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cement, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Silica and the silicates. 1921. James A. Audley. Baillière. London. 374p.

Bibliographies are at the ends of the various sections, more than 100 references in all. Silica, p 45; silicates, p 122; lime, cement and mortar, p 167; ceramic industries, p 272; glass and enamels, p 334; and miscellaneous applications, p 357.

Silicates in chemistry and commerce. 1913. W. Asch and D. Asch. Constable, London, 456p.

Bibliography on p 328-39 has 780 references mentioned in the text. There is a bibliography of 187 references on the analysis of silicates on p 437-44.

Silicon

Carbon and its allies. 1917. Robert Martin Caven. Griffin, London. 468p.

Has numerous bibliographical footnotes on carbon, silicon, germanium, thorium, zirconium, titanium, tin, lead, and their compounds. A bibliography of tin alloys is given on p 339-40.

Physical properties of silicon. 1909. Clarence I. Zimmerman. *Am Electrochem Soc Trans* v 15, p 395-409.

Has 26 bibliographical footnotes.

Silicides

Investigation of the borides and silicides. 1906. Oliver P. Watts. *Wisconsin U Eng Ser Bul* v 3, p 251-318.

Bibliography on p 314-18 of about 55 references from 1808 to 1906.

Silk, Artificial

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 155-8 there are about 40 annotated U.S. and foreign patents on artificial leather, artificial silk and paper.

Silk, viscose

Fällbäder für die herstellung von viskoseide. 1912. Karl Süvern. *Kunststoffe* v 2, p 444-6.

Lists 30 patents with notes on precipitating baths used in the manufacture of viscose silk.

Fällbäder für die herstellung von viskoseide. 1913. Karl Süvern. *Kunststoffe* v 3, p 447-8.

Gives 14 patents with notes on precipitating baths for viscose silk.

Fällbäder für die herstellung von viskoseide. 1916. Karl Süvern. *Kunststoffe* v 6, p 164-6.

Abstracts 16 patents on precipitating baths used in the manufacture of viscose silk.

Silver

Abstracts from the literature on the treatment of manganese-silver ores. 1923. Galen H. Clevenger and Alphonso Cornejo. *U S Bur Mines rept invest* no 2458. 14p.

Has 37 references with extensive abstracts. Covers the period 1867 to 1922.

Bibliography. The cyanide process: articles on coarse and fine grinding, solution of gold and silver, and filtration. 1916. L. D. Mills. *Int Eng Cong*, San Francisco, Met volume, p 355-60.

Has 130 references to books and articles on the cyanide process, coarse and fine grinding, tube milling, solution of gold and silver, filtration, settling and agitating.

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver and platinum in dyes and paints.

Electrodeposition of gold and silver. 1913. Francis C. Frary. *Am Electrochem Soc Trans* v 23, p 25-97.

Has about 400 bibliographical footnotes.

Hydrometallurgical treatment of complex gold and silver ores. 1915. G. H. Clevenger. *2d Pan Am Sci Cong Pro* v 8, p 448-62.

Has 48 bibliographical footnotes.

Metallurgy of lead and silver. 1900. Henry F. Collins. Griffin, London. 352p.

In v 2 on silver there are bibliographical footnotes throughout the text.

Sampling and assay of the precious metals. 1913. Ernest A. Smith. Griffin, London. 460p.

On p 434-5 there is a bibliography of 18 references on the assaying and determination of platinum, gold and silver. Notes are given, and the references date from 1879 to 1912.

Silver bromide

Silver bromide grain of photographic emulsions. 1921. A. P. H. Trivelli and S. E. Sheppard. *Van Nostrand*, N.Y. 164p.

Contains an extensive bibliography.

Silver peroxynitrate

New method for the study of silver peroxynitrate. 1916. Mortimer J. Brown. *Am Electrochem Soc Trans* v 30, p 327-46.

There are 29 references on p 327.

Sizing

Sizing of paper: a reading list. 1920. Clarence J. West. *Paper Tr J* v 71, no 20, p 50, 52, 54, 56; no 21, p 110, 112, 114, 116, November 11, 18.

Has 300 references.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovey. *Canada, Dept Int, Forestry branch bul* 66, 193p.

A classified bibliography with notes, on the utilization of waste sulphite liquors, including its use as sources of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Skin

Chemical constituents of skin. 1922. F. L. Seymour Jones. *Am Leather Chem Assoc J* v 17, p 116-22.
There are about 20 references on p 122.

Slag

Influence of enclosed slag on the corrosion of wrought iron. 1920. L. T. Richardson. *Am Electrochem Soc Trans* v 37, p 533-4.
Gives 12 references.

Slag cement

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.
On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cement, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Slate

Herstellung von schreibtafeln aus kunstschiefer oder mittels kunstschieferanstrichen nach der patentliteratur. 1919. Schall. *Kunststoffe* v 9, p 311-12.
A list of 26 patents with brief notes on the manufacture of blackboards from artificial slate.

Slate deposits and slate industry of the United States. 1906. T. Nelson Dale. *U S Geol Sur Bul* 275. 154p.
There are 150 references on slate on p 138-45.

Technology of slate. 1922. Oliver Bowles. *U S Bur Mines Bul* 218. 132p.
There are about 90 references on p 124-7.

Slimes

Colloids and colloidal slimes. 1916. E. E. Free. *Eng & Min J* v 101, p 249-54, 420-32, 509-13, 681-86.
Has more than 100 footnote and bibliographical references on the theory of colloids and colloidal slimes, sedimentation and flocculation, and rate of settling of slimes.

Smoke prevention

Bibliography of smoke and smoke prevention. 1913. Ellwood H. McClelland. *Mellon Inst Smoke Invest Bul* 2. 164p.
A very complete bibliography of more than 1500 references dealing mainly with coal smoke, excludes dust, metallurgical fumes, fuels, firing, etc. Includes patents, history and legislation as well as methods of prevention.

Smoke prevention: a bibliography. 1907. Pittsburgh Carnegie Library mo bul v 12, p 195-212.
About 200 references with brief notes.

Smoke problem. 1922. O. P. Hood. *U S Bur Mines repts invest* 2323. 5p.
On p 4-5 there are 21 references on smoke abatement.

Smoke problem at boiler plants. 1917. D. T. Randall. *U S Bur Mines Bul* 39. 31p.
On p 25-31 there are 105 references.

Smokeless combustion. 1912. *Eng Soc W Pa Pro v* 27, p 462-4.
A partial bibliography from 1907 to 1911 containing 17 annotated references.

Soap

See also Saponification

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.
On p 286-7 there are 20 references from 1900 to 1911 on the analysis of soap and glycerine.

Soaps and proteins; their colloid chemistry in theory and practice. 1921. Martin H. Fischer. Wiley, N.Y. 272p.
A list of 11 papers consulted is given on p 257. There are also about 100 footnote references cited throughout the book.

Während des krieges bekannt gewordene und patentierte seifenpräparate sowie waschmittel. 1919. S. Halen. *Kunststoffe* v 9, p 86-9.
Gives abstracts of 36 articles and patents on soaps. The original references are given in footnotes.

Sodium

Electric furnace; its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.
On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Metallic sodium. 1922. H. E. Batsford. *Chem & Met Eng* v 26, p 933-5.
A chronological bibliography of the metallic sodium industry containing about 500 references and dating from 1855 to 1920. Contain references to many patents.

Sodium chloride

Studies in evaporator design. 1920. W. L. Badger and E. M. Baker. *Chem & Met Eng* v 20, p 563-74.
On p 574 there are about 50 references on the vapor pressure of sodium chloride solutions.

Sodium nitrate

Der Chilisalpeter, seine bedeutung und anwendung als düngemittel. 1886. A. Stutzer. Parey, Berlin. 113p.
On p 110-13 there are 100 references from 1876 to 1885 on the use of Chile saltpetre as fertilizer.

Sodium nitrate industry of Chile. Bibliography. 1908. Pittsburgh Carnegie Library mo bul v 13, p 144-50.
Has 65 references with brief notes. 1872 to 1907.

Soils

Agricultural chemistry. 1918. E. J. Russell. Soc Chem Ind annual repts appl chem v 3, p 342-61.
Reviews the literature for 1918 on fertilizers, soils, foods. 87 references are given in footnotes.

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Efron; tr by Samuel C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.
There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Effect of soluble salts on the absorption of phosphates by soils. 1911. Harrison E. Patten. *J Phys Chem* v 15, p 639-58.

On p 639 there are about 20 references to the literature of the U.S. Dept of Agriculture on the absorption of soluble bodies from solutions by soils and the physical and chemical conditions produced by absorption processes.

Influence of gypsum upon the solubility of potash in soils. 1918. Paul R. McMillen. *J Agr Research* v 14, p 61-6.

There are 8 references on p 65-6.

Organic nitrogen compounds of soils and fertilizers. 1917. E. C. Lathrop. *J Fr Inst* v 183, p 480-98.

About 200 references from 1850 to 1915 arranged by author. Most of the references are foreign and deal with the subject from the physiological and agricultural viewpoints.

Soil aldehydes. 1918. J. J. Skinner. *J Fr Inst* v 186, p 723-41.

Bibliography of 85 references on p 737-41.

Soil conditions and plant growth. 1917. Edward J. Russell. Longmans, Green, London. 243p.

Selected bibliography on p 223-40 has 323 references on soil conditions and plant growth.

Soils and fertilizers. 1921. E. J. Russell. *Soc Chem Ind annual repts appl chem* v 6, p 403-17.

Has 86 footnote references for the year 1921. Text has abstracts of these references.

Solubility

Solubility of gases in liquids. 1922. B. S. Neuhauser. *J Phys Chem* v 26, p 553-62.

Has 22 bibliographical footnotes.

Solutions

Evidence bearing on the solvate theory of solution. Bibliography. 1913. Harry C. Jones. *J Fr Inst* v 176, p 704-10.

Has 84 references on the solvate theory of solution, electrical conductivity, temperature coefficients of conductivity and dissociation in aqueous solutions, and work on mixed solvents.

Propriétés électrochimiques des solutions dans les solvants autres que l'eau. 1922. *Annales de l'Energie* v 2, p 142-7.

On p 147 there are about 100 references subsequent to 1907 on ionization, solution, conduction, molecular weights, electrolysis, electromotive force, transport numbers, reactions and catalysis, of non-aqueous solutions.

Théorie des solutions concentrées. 1922. Jean Timmermans. *J de Chimie Physique* v 19, p 169-78.

On p 171-2 there is a list of 23 references on Dolezalek's theory and 5 references criticizing it.

Solvents

Neuere lösungsmittel für harze und lacke, zelluloseester, kautschuk, usw. 1916. E. J. Fischer. *Kunststoffe* v 6, p 244-6, 259-61.

A tabulation of patents with brief notes on solvents for lacquer, cellulose ester, rubber, etc.

Recovery of volatile solvents. 1922. Clark S. Robinson. *Chem Cat Co*, N.Y. 188p.

On p 163-80 there is a bibliography of 218 references with brief notes to the literature and patents on the recovery of solvents from about 1880 to date.

Solvent extraction of vegetable oils. 1922. C. F. Eddy. *J Ind & Eng Chem* v 14, p 810-11.

Has 26 references covering 1919 to 1921.

Sorghum

Sorghum, its culture and manufacture. 1884. P. Collier. Clarke, Cincinnati, 570p.

Bibliography on p 42-9.

Specific heat

Messung der spezifischen wärme von gasen. 1922. Max Trautz and O. Grossinsky. *Annalen der Physik* v 67, p 462-526.

On p 521-6 there is a bibliography of 110 references on the determination of the specific heat of gases by the differential method.

Spectrophotometry

Spectrophotometric study of solutions of cupric chloride. 1922. Frederick H. Getman. *J Phys Chem* v 26, p 217-46.

Has 33 bibliographical footnotes.

Spectroscopy

Wave lengths longer than 5500A in the arc spectra of yttrium, lanthanum and cerium, and the preparation of pure rare earth elements. 1921. C. C. Kiess and others. *U S Bur Stand Sci Pa* 421, v 17, p 317-51.

Contains about 35 bibliographical footnotes.

Spectrum analysis

Quantitative spectrum analysis by the quartz spectrograph. 1922. Adam Hilger Ltd, London.

On p 8-10 there are 17 references with notes on quantitative spectrum analysis.

Standard cells

A new form of standard cell. 1920. C. J. Rodman and Thomas Spooners. *Am Electrochem Soc Trans* v 38, p 97-111.

A bibliography of 13 references is given on p 110-11.

Clark and Weston standard cells. 1907. F. A. Wolff and C. E. Waters. *U S Bur Stand Bul* v 4, no 1, p 1-80.

Has 67 bibliographical footnotes on standard cells.

Starch

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 205 there is a list of 18 books on starch dating from 1884 to 1911.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. Kausch. *Kunststoffe* v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 121-2 there are 25 references on the analysis of starch and amylase. 1880 to 1911.

Sugars, starches and gums. 1917. T. H. P. Heriot. *Soc Chem Ind annual repts appl chem* v 2, p 375-404.

Has 116 footnote references for the year 1917. Text has abstracts of these references.

Starch—Continued

Sugars, starches and gums. 1918. James P. Ogilvie. Soc Chem Ind annual repts appl chem v 3, p 362-85.

Reviews the literature for 1918 and gives 83 bibliographical footnotes.

Sugars, starches and gums. 1919. James P. Ogilvie. Soc Chem Ind annual repts appl chem v 4, p 377-402.

Reviews the literature for 1919 and gives 96 bibliographical footnotes.

Sugars, starches and gums. 1920. James P. Ogilvie. Soc Chem Ind annual repts appl chem v 5, p 389-417.

Has 98 bibliographical footnotes for the year 1920. Text has abstracts of these references.

Sugars, starches and gums. 1921. Lavis Eynon and J. H. Lane. Soc Chem Ind annual repts appl chem v 6, p 418-45.

Has 123 bibliographical footnotes for the year 1921. Text has abstracts of these references.

Supplementary list of references on the starch industry. (Manufacture and chemistry). 1922. U S Library of Congress. 7p typewritten.

Tabellarische zusammenstellung in und auslandischer patente betr die herstellung löslicher stärke u dgl. 1916. A. Oelker. Kunststoffe v 6, p 189-91.

Tabulates 44 patents with notes on the manufacture of soluble starch.

Versuche über die reinigungsmöglichkeit von stärkefabrikabwässern durch das biologische verfahren. 1908. C. Zahn. Mitt Prüf Wasserversorg Berlin v 10, no 3, p 42-74.

There are about 16 bibliographical footnotes on p 42-4 on the biological purification of waste waters.

Steam density

Compteurs de vapeur. 1922. Chaleur & Ind v 3, p 1702-6.

On p 1706 there are 24 references on the flow of air and steam, the density of steam, and steam meters.

Steam flow

Compteurs de vapeur. 1922. Chaleur & Ind v 3, p 1702-6.

On p 1706 there are 24 references on the flow of air and steam, the density of steam, and steam meters.

Steel

See also Iron and steel.

Bibliography of high speed tool steels. 1922. Am Soc Steel Treat Trans v 3, p 47-89.

About 360 references with annotations covering the period from 1900 to May 1922; arranged chronologically, and dealing with manufacture as well as uses and tests.

Bibliography. Theory and experiments on the flow of plastic and solid bodies, strength of steel at high temperatures and calculations on rolling mill drives. 1913. Eng Soc West Pa Pro v 29, p 444.

Contains 57 references dating from 1865 to 1913.

Coarse crystallization in cold pressed and cold drawn steel parts. Bibliography. 1916. Ralph H. Sherry. Soc Auto Eng Bul v 10, p 157.

Contains 7 references.

Correlation of the magnetic and mechanical properties of steel. 1916. C. W. Burrows. U S Bur Stand Sci Pa 272, v 13, p 173-210.

On p 209-10 there are 77 references from 1841 to 1914 on the correlation of magnetic with other physical characteristics.

Der stahlguss als werkstoff. 1922. Rudolf Schafer. Giesserei Zeit v 19, p 463-72, 474-82.

Bibliography of 64 references on cast steel on p 482.

Effect of high temperature quenching on the microstructure of high carbon steels. 1923. H. Scott. Am Soc Steel Treat Trans v 3, p 593-623.

On p 623 there are 19 references on the metallography of steel.

Effect of nitrogen in steel; a resumé of the important literature. 1920. G. F. Comstock and W. E. Ruder. Chem & Met Eng v 22, p 399-405.

Not an ordinary bibliography; rather a discussion, citing numerous references on the amount of nitrogen in steels, its method of occurrence and effect on physical properties and its action during heat treatment.

Grundzüge der siderologie. 1900. Hans v. Jüptner. Felix, Leipzig. 3 v.

In v 1, on p 291-307 there are 400 references on the chemical constitution and metallography of iron and constitution of slags; in v 2, on p 388-99, about 300 references on the effect of heat treating on constitution, physical properties of iron alloys; in v 3, on p 400-18 there are about 475 references on the metallurgy of iron and steel.

Phosphorus and sulphur in steel. A bibliography on the action of phosphorus and sulphur in steel. 1921. U S Bur Standards, Washington, D.C.

Possibilities in the application of colloid chemistry to the production of clean steel. Selected bibliography. 1923. H. W. Gillett. Am Inst Min Eng advance paper. 11p mimeographed.

There are 44 references with extensive notes.

Research with regard to the non-magnetic and magnetic conditions of manganese steel. 1915. B. Hopkinson and Robert Hadfield. Am Inst Min Eng v 50, p 494-6.

Has 51 references from 1875 to 1914.

Strength of oxyacetylene welds in steel. 1910. H. L. Whittemore. Ill U Eng Exp Sta Bul 45. 65p.

27 references without notes covering the period 1903 to 1908.

Structure of tool steel. 1914. J. V. Emons. Cleveland Eng Soc J v 7, p 341-63.

There are 10 references on the metallography of tool steel on p 363.

Steel alloys

Bibliography and abstracts of chromium steels. 1921. F. P. Zimmerli. Chem & Met Eng v 25, p 837-43.

About 115 references with extensive abstracts arranged chronologically, representing some of the principal papers on chromium and chromium alloy steels published between 1798 and 1919.

Invar and related nickel-steels. 1916. U S Bur Stand Circ 58. 68p.
There are 42 references on nickel-steels on p 67-8.

Manufacturing and uses of alloy steels. 1915. H. D. Hibbard. U S Bur Mines Bul 100. 77p.

Takes up the various alloy steels and gives references at the end of each section.

More important metallurgical papers appearing in science reports of Imperial Tohoku university. 1921. Chem & Met Eng v 24, p 574-5.

Consists of 42 references reviewing the literature of the chromium tungsten steels, especially the work of Japanese investigators.

Nickel. 1921. U S Bur Stand Circ 100. 106p.

Bibliography of 570 references on p 94-106. Deals with the metallurgy, metallography, physical, chemical, thermal and electrical properties, technology, alloys, monel metal, steel alloys.

Rostfreie stähle. 1922. Karl Dacves. Stahl & Eisen v 42, p 1315-20.

There are 32 references on p 1319-20 on rustless steel.

Selected bibliography on the mechanical tests of alloy steels at high temperatures. 1923. Iron Age v 112, p 278.

Contains 11 references with short abstracts.

Special steels. 1923. Thomas H. Burnham. Pitman, London. 193p.

On p 166-83 there are 135 papers by Sir Robert Hadfield.

Thermal transformations in some chrome-vanadium steels. 1923. J. S. Vanick and W. W. Sveshnikoff. Am Soc Steel Treat Trans v 3, p 502-33.

On p 533 there is a selected bibliography of 20 references on chromium steel, vanadium steel and chrome-vanadium steel.

Steel, Heat treatment

Double heat treatment with special reference to armor plate and guns. 1918. E. C. Buck. Iron Age v 101, p 1658.

A bibliography covering the period 1882 to 1916 and containing 29 references.

Heat treatment of soft and medium steels. 1921. Federico Giolitti. McGraw-Hill, N.Y. 374p.

"Bibliography of some books on subjects related to those discussed in this volume" on p 361-3. Contains 30 references with notes.

Kritische wärmebehandlung nach kritischer kaltformgebung von kohlenstoff armen flusseisen. 1920. A. Pomp. Stahl & Eisen v 40, p 1261-9, 1366-78, 1403-15.
Has 49 bibliographical footnotes on the heat treatment of mild steel.

Part played by the amorphous phase in the hardening of steels. 1914. J. C. W. Humfrey. Faraday Soc Trans v 10, p 240-7.

Bibliography of 12 references on p 247.

Principles of metallography. 1920. Robert S. Williams. McGraw-Hill N.Y.

Bibliography on p 139-42 has a brief list of select books on metallography of iron and steel, alloys, and heat treatment of iron and steel. About 40 references with suggestive annotations.

Selective case carburizing. 1922. W. P. Wood and O. W. McMullan. Chem & Met Eng v 26, p 1077-80.

A review of the various methods of producing local cases. Bibliography on p 1080 containing 26 references.

Steel and its heat treatment. 1912. R. R. Abbott. Cleveland Eng Soc J v 5, p 111-34.

There are 17 references on p 134.

Trempe, recuit, cémentation et conditions d'emploi des aciers. 1911. L. Grenet. Beranger, Paris. 495p.

On p 467-76 there are 120 references on the heat treatment of steel.

Steel works

Das moderne siemens-martinstahlwerk. 1922. H. Hermanns. Knapp, Halle. 289p.

On p 273-85 there are about 325 references on steel works.

Stokes' law

Size-frequency distribution of particles, 1921. E. P. Wightman and S. E. Sheppard. J Phys Chem v 25, p 561-94.

On p 565 there is a selected bibliography of 16 references on Stokes' law.

Stramonium

See also Alkaloids.

Alkaloidal content of stramonium leaves. 1914. H. A. Langenhan. Wisconsin U Sci Ser Bul v 4, p 193-226.

Bibliography from 1891 to 1914 arranged chronologically of about 50 references with extensive notes and abstracts on p 211-25.

Strontium

Electric furnace; its origin, transformations and applications. 1905. Faraday Soc Trans v 1, p 77-102.

On p 81 there is a list of about 60 different materials made in the electric furnace with a bibliographical reference for each. On p 100-2 there is a list of about 80 references on the electrochemistry of aluminum, magnesium, lithium, sodium, potassium, calcium, strontium, barium, and on electric furnaces.

Industria dei sali di stronzio e la preparazione tecnica del carbonato dalla celestina per via umida. 1923. Agide Piva. Gior di Chim ind ed appl v 5, p 279-84.

Has 41 bibliographical footnotes on the preparation of strontium salts.

Stucco

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar materials, slag cement, silicates and siliceous materials, white cement, dental compositions, Portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Sucrose

Use of invertase for sucrose estimation. 1921. T. Swann Harding. Sugar v 23, p 546-8.

There are 12 references on p 547-8.

Sugar

For special sugars see name of sugar as Fucose, galactose.

Sugar—Continued

Cane sugar. 1921. Noel Deerr. Rodger, London. 644p.

There is a bibliography of 300 references with brief annotations on p 591-604. Deals with all phases of the sugar cane industry and the extraction of sugar.

Chémie der zuckerindustrie. 1914. Oskar Wohryzek. Springer, Berlin. 676p.

Facing p XIV there is a list of 25 references to books dealing with biological and physiological chemistry and organic chemistry in relation to the sugar industry.

Forest products, their manufacture and use; embracing the principal commercial features in the production, manufacture, and utilization of the most important forest products other than lumber in the United States. 1919. Nelson C. Brown. Wiley, N.Y. 471p.

Bibliographies at the ends of chapters. Deals with wood pulp and paper, tanning, naval stores, wood distillation, sugar, etc.

Handbook for cane sugar manufacturers. 1916. Guilford C. Spencer. Wiley, N.Y. 529p.

On p 500-17 there are 622 references to the literature of substances that are or have been used for purifying, decolorizing and clarifying sugar-containing solutions.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 184-5 there is a list of 20 books on sugar dating from 1888 to 1919.

Klebstoffe und bindemittel ausser leim, gelatine, dextrin und kitten. 1913. Kausch. Kunststoffe, v 3, p 63-6, 89-92, 110-12, 127-30.

Reviews the patent literature on adhesives and binders from starch, albuminoids, seaweed, rubber, bitumens, sugar and cellulose.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 103-5 there are 50 references on the analysis of sugars. 1895 to 1911.

Ozoniseeren van fabrieksproducten der suikerindustrie. 1922. C. W. Schonebaum. Kruyt, Amsterdam, Holland, 87p.

On p 7-16 there are abstracts of 26 patents and literature on the effect of ozone on sugar.

Protective inoculation of raw sugar. 1923. William L. Owen. Sugar v 25, p 65-8.

On p 68 there are 14 references.

Recent research in the chemistry of the sugars. 1910. J. S. Hepburn. J Fr Inst v 170, p 85-116.

Bibliography on p 114-16 has 88 references and dates from 1800 to 1909.

Review of the literature on decolorizing carbons. 1923. J. F. Brewster. Louisiana Planter v 70, p 471-3.

There are 20 references on p 473.

Select list of references on sugar, chiefly in its economic aspects. 1910. H. H. B. Meyer. Washington, D.C. Govt Print off. 238p.

Contains 1909 references with author and subject indexes. Covers the growing of cane, refining of sugar, litigation and duties concerning the sugar industry.

Sorghum, its culture and manufacture. 1884. P. Collier. Clarke, Cincinnati. 570p.

Bibliography on p 42-9.

Stohmanns handbuch der zuckerfabrikation. 1912. A. Schander. Parey, Berlin. 810p.

There are 93 references on sugar manufacture on p XII-XVIII.

Sugar machinery. 1909. A. J. Wallis-Taylor. Rider, London. 369p.

Bibliography on p 355-6 has about 50 references on the technology of sugar and analytical methods and chemical control of sugar manufacture.

Sugars, starches and gums. 1917. T. H. P. Heriot. Soc Chem Ind annual repts appl chem v 2, p 375-404.

Has 116 footnote references for the year 1917. Text has abstracts of these references.

Sugars, starches and gums. 1918. James P. Ogilvie. Soc Chem Ind annual repts appl chem v 3, p 362-85.

Reviews the literature for 1918 and gives 83 bibliographical footnotes.

Sugars, starches and gums. 1919. James P. Ogilvie. Soc Chem Ind annual repts appl chem v 4, p 377-402.

Reviews the literature for 1919 and gives 96 bibliographical footnotes.

Sugars, starches and gums. 1920. James P. Ogilvie. Soc Chem Ind annual repts appl chem v 5, p 389-417.

Has 98 bibliographical footnotes for the year 1920. Text has abstracts of these references.

Sugars, starches and gums. 1921. Lavis Eynon and J. H. Lane. Soc Chem Ind annual repts appl chem v 6, p 418-45.

Has 123 bibliographical footnotes for the year 1921. Text has abstracts of these references.

Sugar beet

Beet-sugar manufacture. 1906. H. Claasen. Wiley, N.Y. 280p.

A list of references is given on p 276-80.

Some correlations in sugar beets. 1917. F. S. Harris and J. C. Hagenson. Sugar v 19, p 9-12.

On p 12 there are 7 references on the relation between the size of the beet and its sugar content.

Sugar beet in America. 1919. F. S. Harris. Macmillan, N.Y. 342p.

Bibliography of the most available and most useful references to the literature of the sugar beet in America on p 295-311. Has about 300 references arranged chronologically from 1840 to 1918.

Sugar cane

Improving cane by bud selection. 1923. A. D. Shamel. Sugar v 25, p 200-2.

There are 15 references on p 202.

Nature of the organism found in the Fiji galls of sugar cane. 1923. F. P. McWhorter. Louisiana Planter v 70, p 148-50.

On p 150 there are 8 references on the diseases of the sugar cane.

Sulphite process

Briquetting tests of lignite at Pittsburgh, Pa 1908 to 1909. 1912. Charles L. Wright. U S Bur Mines Bul 14. 64p.

Bibliography of lignite briquette manufacture in Germany on p 49-51; 7 references to sulphite liquor and cell pitch on p 57;

and on p 63-4 is a list of references reviewing the literature on briquetting from 1899 to 1910.

Chemistry of paper making. 1894. R. B. Griffin and A. D. Little. Lockwood, N.Y. 517p.

There is a list of about 150 U.S. patents with brief notes relating to the sulphite process on p 471-7.

Literatur der sulfit-ablauge. 1911. W. H. M. Muller. Hofman, Berlin. 114p.

Contains about 450 references from 1866 to 1910; an historical review from 1875 to 1889 with German and Austrian patents on waste sulphite liquor.

Short bibliography of sulphite alcohol. 1919. C. J. West. Paper v 25, Dec 3, p 19-23.

About 100 references on the production of alcohol from waste sulphite liquor.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovey. Canada, Dept Int, Forestry branch bul 66. 193p.

A classified bibliography with notes on utilization of waste sulphite liquor, including its use as source of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Sulphur

Determination of sulphur in iron and steel. 1916. H. B. Pulsifer. J Ind & Eng Chem v 8, p 1115-23.

On p 1119-23 there is a bibliography of 285 references with notes dating from 1797 to 1916.

Determination of sulphur in iron and steel. 1922. H. B. Pulsifer. Chem Pub Co, Easton, Pa. 160p.

On p 53-155 there is a bibliography dating from 1797 to 1920 with extensive notes and abstracts giving data, results, methods, apparatus, etc.

Metallurgical theories conflict; complete bibliography shows that investigators attribute various effects to sulphur and phosphorus in steel and cast iron. 1920. Foundry v 48, p 467-8.

A list of about 65 references with full notes.

Methods of determining the sulphur content of fuels, especially petroleum products. 1912. I. C. Allen and I. W. Robertson. U S Bur Mines Tech Pa 26. 13p. Has 64 bibliographical footnotes.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 306-7 there are 30 references from 1895 to 1911 on the analysis of nitrogen, sulphur and phosphorus.

Phosphorus and sulphur in steel. A bibliography on the action of phosphorus and sulphur in steel. 1921. U S Bur Standards, Washington, D.C.

Recent investigations of the oxidation of sulphur by micro-organisms. 1923. J. G. Lipman. Ind & Eng Chem v 15, p 404-5. There are 13 references on p 405.

Sulphur in mond gas. References. 1907. Soc Chem Ind J v 26, p 368.

There are 22 references on the estimation of sulphur in coal gas dating from 1882 to 1903.

Sulphur, pyrite and sulphuric acid. 1911. E. C. Holden. Mineral Ind v 20, p 678-94.

On p 694 there are 12 references for 1911.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovey. Canada, Dept Int, Forestry branch bul 66. 193p.

A classified bibliography with notes on utilization of waste sulphite liquor, including its use as source of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Sulphur dioxide

Electrical conductivity of liquid sulphur dioxide solutions. 1911. Edward C. Franklin. J Phys Chem v 15, p 675-97. About 25 bibliographical footnotes.

Report of the Selby Smelter Commission. 1915. J. A. Holmes. U S Bur Mines Bul 98. 528p.

On p 501-20 there is a bibliography of 95 references with abstracts on the effect of sulphur dioxide on animals, men and vegetation.

Vapor pressure of sulphur dioxide and ammonia. 1922. F. W. Bergstrom. J Phys Chem v 26, p 358-76.

Has 25 bibliographical footnotes.

Sulphuric acid

Edelmetalle und verbindungen der seltenen erden als kontaktstoffe. 1919. S. Halen. Edel Erden & Erze v 1, p 51-3, 76-9, 89-91, 102-5, 111-15.

Abstracts the patent literature on catalytic agents in contact processes: sulphuric acid, hydrogenation of fats and oils, preparation of chlorine, catalytic ammonia, ammonia oxidation and production of organic compounds.

Fabrication de l'acide sulfurique par le procédé des chambres de plomb, état actuel et perfectionnements qui y ont été apportés. 1922. P. Truchot. Chimie & Ind v 8, p 120T-35T.

There are 17 patents on lead chambers used in the manufacture of sulphuric acid on p 135T.

Notes on the use of sulphuric acid in the sedimentation of kaolins. 1917. H. G. Schurecht. Am Ceramic Soc Trans v 19, p 130-45.

Has 11 bibliographical footnotes.

Sulphur, pyrite and sulphuric acid. 1911. E. C. Holden. Mineral Ind v 20, p 678-94.

On p 694 there are 12 references for 1911.

Thermal problem in sulphuric acid manufacture. 1919. F. C. Zeisberg. Am Electrochem Soc Trans v 36, p 187-94.

On p 194 there are 26 patents on the manufacture of sulphuric acid by the contact process.

Surface tension

Colloids and surface tension. 1916. J. Cunningham. Missouri U Bul 8, p 44-51. Also Am Inst Min Eng Bul 115, p 1131-6.

A list of 86 references.

Concentrating ores by flotation. 1916. Theodore J. Hoover. Mining Magazine, London. 320p.

There is a very complete bibliography on flotation including references on capillary action, surface tension, and adhesion from 1900 to 1913 on p 201-54. About 2500 references. On 290-312 there are about 600 references on the same subjects from 1914 to 1916.

T

Tannin

Mode of occurrence of tannin in the living cells. 1922. Francis E. Lloyd. *Am Leather Chem Assoc J* v 17, p 430-50. There are 28 references dating from 1885 to 1922 on p 448-50.

Tanning

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by S. C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Chrome tanning. 1923. D. Burton. *Am Leather Chemists Assoc J* v 18, p 110-39.

On p 130-9 there are 206 references from 1858 to 1922 on the principles and methods of chrome tanning.

Die synthetischen gerbstoffe. 1917. K. Süvern. *Kunststoffe* v 7, p 43-7.

A list of 32 patents with annotations on tanning materials.

Die synthetische gerbstoffe. 1920. Wilhelm. *Kunststoffe* v 10, p 13-15.

Gives a list of 28 patents with brief notes on synthetic tanning materials.

Fermentation in tannery liquors. 1922. B. S. Levine. *Am Leather Chem Assoc J* v 17, p 151-4.

Gives 5 references on p 154.

Mineral tannages. 1922. F. L. Seymour-Jones. *J Ind & Eng Chem* v 14, p 832-4.

There are 37 footnote references covering the period from 1917 to 1922.

Preparation of skin for tanning. 1922. J. A. Wilson. *J Ind & Eng Chem* v 14, p 834-6.

Has 30 bibliographical footnotes covering the period from 1910 to 1922.

Review of analytical work applicable to leather and tanning, 1920 to 1921. 1922. F. P. Vietch and R. W. Frey. *J Ind & Eng Chem* v 14, p 825-9.

Bibliography of 87 references on p 828-9 covers the period 1920 to 1922.

Studies on the treatment and disposal of industrial wastes. 1919. U S Public Health Bul 100. 133p.

On p 130-3 there are about 70 references from 1865 to 1917 on the treatment of tannery waste.

Utilization of waste sulphite liquor. 1919. Bjarne Johnsen and R. W. Hovey. Canada, Dept Int, Forestry branch bul 66, 193p.

A classified bibliography with notes, on the utilization of waste sulphite liquors, including its use as sources of binders, gums, adhesives, sizing, tanning materials, alcohol, fuel, and sulphur.

Vegetable tanning. 1922. Arthur W. Thomas. *J Ind & Eng Chem* v 14, p 829-31.

Has 29 footnote references from 1916 to 1922.

Tantalum

Die verwendung des tantals und seiner verbindungen. 1920. Oskar Kausch. *Edel Erden & Erze* v 1, p 173-5.

Abstracts the patents and literature on the use of tantalum and its compounds.

Tellurium

Behavior of tellurium in assaying. 1907. Sidney W. Smith. *Inst Min & Met Trans* v 17, p 463-76.

Bibliography on p 474-6 has 19 references from 1883 to 1908.

Temperature. See Pyrometry, thermometry

Textiles

Anwendung der seltenen erden in der färberei und zeugdrucherei. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 73-5, 88-9.

Abstracts of patents on the use of rare earths in dyeing and fabric printing.

Application of dyestuffs to textiles, paper, leather and other materials. 1920. J. M. Matthews. Wiley, N.Y. 768p.

Bibliography on p 733-50 has 500 references.

A reading list on paper yarns and textiles. 1921. C. J. West. *Paper Tr J* v 72, May 26, p 42-4.

Contains 125 references.

Bibliography on textile machinery. 1916. H. H. B. Meyer. *U S Bur Foreign & Dom Com misc ser* 37, p 91-8.

Bleaching, dyeing, printing and finishing. 1917. S. H. Higgins. *Soc Chem Ind annual repts appl chem* v 2, p 159-74.

Has 114 bibliographical footnotes covering 1917. Abstracts are given in the text.

Bleaching, dyeing, printing and finishing. 1918. S. H. Higgins. *Soc Chem Ind annual repts appl chem* v 3, p 47-161.

There are 81 bibliographical footnotes covering 1918. Abstracts are given in the text.

Bleaching, dyeing, printing and finishing. 1919. S. H. Higgins. *Soc Chem Ind annual repts appl chem* v 4, p 137-48.

Has 91 bibliographical footnotes covering 1919. Abstracts are given in the text.

Bleaching, dyeing, printing and finishing. 1920. Benjamin Leech. *Soc Chem Ind annual repts appl chem* v 5, p 150-61.

Has 57 footnote references to literature for 1920.

Bleaching, dyeing, printing and finishing. 1921. W. Harrison. *Soc Chem Ind annual repts appl chem* v 6, p 154-65.

There are 64 bibliographical footnotes covering 1921. Abstracts are given in the text.

Chemische technologie der gespinnfasern. 1913. Karl Stirn. Borntraeger, Berlin. 410p.

There are 100 references on p 381-3; more than 250 patents on p 384-90, and numerous bibliographical footnotes throughout the text on textile fibres and dyeing of fibres.

Colloid chemistry in textile industries. 1920. W. Harrison. *Color Tr J* v 6, p 50-5, 91-5.

Bibliographical references are given throughout the text.

Die chemie der cellulose. 1911. Carl G. Schwalbe. Borntraeger, Berlin. 664p.

Has numerous bibliographical footnotes on the chemistry of cellulose and textile fibres.

Fibres, textiles, cellulose and paper. 1917. J. F. Briggs. Soc Chem Ind annual repts appl chem v 2, p 126-58.

Has 150 bibliographical footnotes for the year 1917. Abstracts are given in the text.

Fibres, textiles, cellulose and paper. 1918. J. F. Briggs. Soc Chem Ind annual repts appl chem v 3, p 115-46.

Has 112 bibliographical footnotes for 1918. Text has abstracts of these references.

Fibres, textiles, cellulose and paper. 1919. Sidney S. Napper. Soc Chem Ind annual repts appl chem v 4, p 114-36.

Has 132 bibliographical footnotes to articles issued during 1919. Text contains abstracts of these references.

Fibres, textiles, cellulose and paper. 1920. Sydney S. Napper. Soc Chem Ind annual repts appl chem v 5, p 125-49.

Has 163 footnotes to references abstracted in the text for the year 1920.

Fibres, textiles, cellulose and paper. 1921. Frank L. Barrett. Soc Chem Ind annual repts appl chem v 6, p 112-53.

Has 307 bibliographical footnotes for the year 1921. Abstracts are given in the text.

Herstellung wasserdichter und feuersicherer stoffe durch imprägnieren von gewebe. 1912. Oscar Kausch. Kunststoffe v 2, p 29-31, 52-4, 88-93.

Reviews the patent literature on waterproofing and fireproofing of textiles.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 349-50 there is a list of books dating from 1894 to 1921 on cellulose and paper. On p 377 there is a list of 40 books on textile fibres dating from 1881 to 1919.

Lehrbuch der chemischen technologie der gespinnnfasern. 1913. G. C. T. von Georgievics. Deuticke, Leipzig.

In v 1, on p 525-53 there are numerous references to dyestuffs, etc.

Lighting of textile mills. 1923. A. L. Powell. Gen Elec Co Edison Lamp Works Lighting data bul 110-A. 31p.

On p 31 there are 19 references on the lighting of textile mills.

List of references on the textile industry. 1918. Ernest L. Little. Special Libraries v 8, p 174-6; v 9, p 24-5.

Has 170 references with notes and deals with the manufacture of textiles.

Textile fibres, their physical, microscopical and chemical properties. 1907. Joseph M. Matthews. Wiley, N.Y.

Bibliography on p 431-8 has about 175 references.

Verfahren zum schutz des holzes und der gewebe gegen feuer. 1915. Friedrich Moll. Kunststoffe v 5, p 1-4, 15-18, 39-41, 52-3.

A list of patents of all countries with notes, on fireproofing wood and textiles.

Thallium

Die verwendung des thalliums und seiner verbindungen. 1920. S. Halen. Edel Erden & Erze v 1, p 205-7.

Abstracts of articles on the use of thallium and its compounds.

Index to the literature of thallium. 1861 to 1896. 1899. Martha Doan. Smithsonian misc col. 26p.

Thermometry

Bibliography of helium literature. 1919. E. R. Weaver. J Ind & Eng Chem v 11, p 682-8.

About 700 references classified according to subject. Main subjects are: occurrence, formation, separation and purification, properties, spectrum, liquefaction, uses in thermometry, photometry and in low temperature work.

Note on temperature scale between 100° and 500°C. 1910. Charles W. Waidner. U S Bur Stand Bul v 7, p 1-11.

On p 9 there are 15 references on boiling points of substances for use as standards in thermometry.

Thermostats

Thermostats and thermoregulators. 1902. William C. Geer. J Phys Chem v 6, p 85-105.

On p 101-5 there are about 80 references on thermostats working on different principles.

Thorium

See also Radiothorium

Carbon and its allies. 1917. Robert Martin Caven. Griffin, London. 468p.

Has numerous bibliographical footnotes on carbon, silicon, germanium, thorium, zirconium, titanium, tin, lead, and their compounds. A bibliography of the alloys of tin is given on p 339-40.

Chemical separation of the excited activity of thorium. 1905. Herman Schlundt and Richard B. Moore. Am Electrochem Soc Trans v 8, p 269-79.

Has 20 bibliographical footnotes.

Die neuesten arbeiten über thorium, thoriumverbindungen, mesothorium, radiothorium usw. 1921. S. Halen. Edel Erden & Erze v 2, p 83-5.

Reviews the literature on thorium and its compounds, mesothorium, radiothorium, etc., for the period 1917 to 1920.

Die verwendung des thoriums und seiner verbindungen. 1920. S. Halen. Edel Erden & Erze v 2, p 18-20, 25-7, 41-3.

Outlines the principal literature on thorium and its compounds. Includes patents.

Index to the literature of thorium. 1817 to 1902. 1903. Cavalier H. Jouet. Smithsonian Misc coll 154p.

Metals of the rare earths. 1919. James F. Spencer. Longmans, Green, London. References are given on p 241-62. More than 1029 references dating from 1800 to 1918 on cerium, yttrium and the thorium group.

Timber. See Wood

Tin

Alloys of lead, tin and bismuth. 1902. E. S. Shepherd. J Phys Chem v 6, p 519-53.

On p 552-3 there are 42 references.

Bibliography of tin in 1909. Mineral Ind v 18, p 685-6.

Contains 34 references.

Bibliography of tin in 1911. Mineral Ind v 20, p 719-20.

Contains 30 references.

Tin—*Continued*

Carbon and its allies. 1917. Robert Martin Caven. Griffin, London. 468p.

Has numerous bibliographical footnotes on carbon, silicon, germanium, thorium, zirconium, titanium, tin, lead, and their compounds. A bibliography of tin alloys is given on p 339-40.

Electrodeposition of tin. 1913. Edward F. Kern. *Am Electrochem Soc Trans* v 23, p 193-232.
A "review of data from all available literature."

Electrolytic corrosion of some metals. 1911. G. R. White. *J Phys Chem* v 15, p 723-92.

About 60 footnote references dealing with the electrolytic corrosion of zinc, copper, tin, lead, nickel and cadmium.

Metallurgie des zinn. 1910. Hans Men-
nicke. Knapp, Halle. 196p.

Patents on the metallurgy of tin are scattered throughout the text.

Tin. 1922. Great Britain Mineral Resources Bureau. Mineral industry of the British Empire and foreign countries, London, 98p.

On p 87-98 there are 300 references on the resources, mining, assaying and metallurgy of tin. Covers the war period 1913 to 1919.

Tin deposits of the world with a chapter on tin smelting. 1912. Sydney Fawns. *Mining Journal*, London. 306p.

Bibliography on p 297-301 has 53 annotated references.

Titanium

Carbon and its allies. 1917. Robert Martin Caven. Griffin, London. 468p.

Has numerous bibliographical footnotes on carbon, silicon, germanium, thorium, zirconium, titanium, tin, lead, and their compounds. A bibliography of the alloys of tin is given on p 339-40.

Die herstellung von titansaure und anderen titanverbindungen. 1919. S. Halen. *Edel Erden & Erze* v 1, p 27-9, 43-5.

Gives abstracts of articles and patents on the production of titanium acids and salts.

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver and platinum in dyes and paints.

Die verwendung des titans und seiner verbindungen. 1920. S. Halen. *Edel Erden & Erze* v 1, p 237-42.

Abstracts of patents and literature on the use of titanium and its compounds.

Metallurgy of titanium. 1917. R. J. Anderson. *J Fr Inst* v 184, p 469-508, 637-50, 885-900.

Has 86 bibliographical footnotes and a bibliography of about 230 references on p 891-900.

Notes on titanium and the cleansing effect of titanium on cast iron. 1912. Bradley Stoughton. *Am Inst Min Eng Trans* v 44, p 282-312.

On p 306-12 there are 130 references on titanium, its alloys and the effect of titanium on steel.

Titanium. 1922. A. H. A. Robinson. Canada Dept Mines Publications v 14 no 3. 127p.

There are 89 references on p 36-8 on titanium and its compounds. Also has many bibliographical footnotes.

Tripoli

Mining and preparation of Tripoli. 1920. Raymond B. Ladoo. *U S Bur Mines Repts invest*, Nov 1920, 9p mimeographed.

There are 13 references on p 8.

Trypsin

Biochemical catalysis in life and industry; proteolytic enzymes. 1917. Jean Efron; tr. by S. C. Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in breadmaking, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Tungsten

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. *Edel Erden & Erze* v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver, and platinum in dyes and paints.

Die verwendung des wolframs und seiner verbindungen. 1920. S. Halen. *Edel Erden & Erze* v 1, p 181-4, 191-3, 198-200.

Gives abstracts of patent and periodical literature on the use of tungsten and its compounds.

Electrolytic behavior of tungsten. 1917. Walter E. Koerner. *Am Electrochem Soc Trans* v 31, p 221-47.

There are 43 references on the electrolysis of tungsten on p 246-7.

Industrial readjustments of certain mineral industries affected by the war. 1920. U S Tariff Comm, Tariff Information series no 21. 320p.

On p 318-20 there are 54 references on tungsten.

Metallography of tungsten. 1918. Zay Jeffries. *Am Inst Min Eng Trans Bul* 138, June, p 1076-8.

Has 38 references on the preparation of tungsten powder, working of tungsten, amorphous theory, plastic deformation and grain growth.

Metallurgie des wolframs. 1911. Hans Men-
nicke. Krayn, Berlin. 416p.

References are given throughout the text. On p 401-4 there are about 50 references and on p 405-7 there are about 75 patents on the production of tungsten and its compounds.

Occurrence, chemistry, metallurgy and uses of tungsten with special references to the Black Hills of South Dakota. 1918. Joseph J. Runner. *South Dakota Sch Mines Bul* 12. 264p.

Bibliography by M. L. Hartmann on p 160-255 contains 1328 references, classified by author index and arranged chronologically up to 1917. Includes preparation, chemistry, properties, uses, compounds, analysis, mining, etc.

Tungsten. 1921. Great Britain Mineral Resources Bureau. Mineral industry of the British Empire and foreign countries, London. 44p.

On p 36-44 there are 200 references on mineral resources, metallurgy, alloys. Covers the war period 1913 to 1919.

Turpentine

Technologie der Holzverkohlung, unter besonderer Berücksichtigung der Herstellung von sämtlichen halb- und ganzfabrikaten aus den erstlingsdestillaten. 1910. M. Klar. Springer, Berlin. 429p.

On p 404-19 is a list of about 300 patents on the distillation of wood, acetic acid, acetone, methyl alcohol, and turpentine. German, Austrian, English, French and U.S. patents are listed.

U

Ultramicroscope

Physical properties of colloidal solutions. 1921. E. F. Burton. Longmans, Green, London. 221p.

On p 48-50 there are 46 references on the ultramicroscope; and 16 references on p 131 on the size of ultramicroscopic particles.

Ultraviolet rays

A photographic null method for measuring absorption in the ultra violet. Bibliography. 1914. W. R. Ham. J Fr Inst v 178, p 324-8.

Contains 48 references to the study of ultra violet rays, general literature, physiological aspects and photographic applications.

Sterilisation von wasser mittels ultravioletten strahlen. 1911. Grimm and Welter, Mitt Prüf Wasserversorg Berlin v 14, no 3, p 85-102.

There are 28 references on water sterilization on p 101-2.

Ultra-violet rays; a list of references to material in the New York Public Library. 1915. W. B. Behrens. New York Public Lib Bul June 1915. 20p.

There are 317 references arranged chronologically from 1852 to 1914 with author and subject indexes.

Uranium

Die verwendung der edelerden zur herstellung von farben und anstrichmassen. 1920. F. Wedorf. Edel Erden & Erze v 1, p 165-7, 175-8.

Abstracts of the literature on the use of cadmium, mercury, titanium, tungsten, molybdenum, uranium, rare earths, gold, silver, and platinum in dyes and paints.

Die verwendung des urans und seiner wichtigsten verbindungen. 1920. P. Meren. Edel Erden & Erze v 1, p 144-8, 167.

Abstracts the patent and periodical literature on uranium and its compounds.

V

Valence

La constitution des atomes et l'affinité chimique. 1922. Rev gén des Sci v 33, p 390-400.

On p 400 there are 34 references on atomic structure, affinity and valence, formation and compressibility of crystals, and related topics.

Nature of secondary valence. 1922. Homer W. Smith. J Phys Chem v 26, p 349-57. Has 12 bibliographical footnotes.

Vanadium

Bibliography of vanadium in 1909. Mineral Ind v 18, p 696-7.

Contains 14 references.

Die literatur des vanadins, 1804 to 1905. 1906. Wilhelm Prandtl. Voss, Hamburg. 117p.

Contains more than 600 references on vanadium.

Die verfahren zur herstellung der vana-dinsäure und ihre salze. 1919. Oskar Kausch. Edel Erden & Erze v 1, p 5-8, 17-19, 32-3.

Abstracts patents on the production of vanadium acids and salts.

Die verwendung des vanadins und seiner verbindungen. 1920. S. Halen. Edel Erden & Erze v 1, p 213-16, 222-3.

Abstracts patents and literature on vanadium and its compounds.

Vanilla extract

New method for the determination of vanillin in vanilla extract. 1916. Arthur W. Dox and G. P. Plaisance. Chem Eng v 24, p 195-6.

There is a list of 10 references to methods of determining vanillin on p 195.

Vanilla extract. 1916. J. R. Dean and J. O. Schlotterbeck. J Ind & Eng Chem v 8, p 703-9.

There are 58 references on p 709.

Vanillin

New method for the determination of vanillin in vanilla extract. 1916. Arthur W. Dox and G. P. Plaisance. Chem Eng v 24, p 195-6.

There is a list of 10 references to methods of determining vanillin on p 195.

Vanilline. 1922. P. Alexandre and J. Martinet, Chimie & Ind v 7, p 251 T-64T. Has 98 bibliographical footnotes on vanillin.

Van't Hoff, Jacobus H.

Eminent chemists of our time. 1920. Benjamin Harrow. Van Nostrand, N.Y. 248p.

Includes a short bibliography of the life of each of the following: Perkin, Mendeléeff, Ramsay, Richards, van't Hoff, Arrhenius, Moissan, Mme Curie, V. Meyer, Remsen, and Fischer.

Vapor pressure

Vapor pressure of gases in the presence of liquids. 1914. F. H. Campbell. Faraday Soc Trans v 10, p 197-206. Has 28 bibliographical footnotes.

Vapor pressure of sulphur dioxide and ammonia. 1922. F. W. Bergstrom. J Phys Chem v 26, p 358-76. Has 25 bibliographical footnotes.

Studies in evaporator design. 1920. W. L. Badger and E. M. Baker. Chem & Met Eng v 20, p 569-74.

On p 574 there are about 50 references on the vapor pressure of sodium chloride solutions.

Varnish

Analysis of paint vehicles, japans and varnishes. 1920. C. D. Holley. Wiley, N.Y. 203p.

There are 24 references on p 194-5.

Varnish—Continued

German varnishmaking. 1912. Max Botler; tr. by A. W. Sabin. Wiley, N.Y. 363p.

"Recent literature on analytical chemistry of varnishes, gums, resins," etc. is given on p 322-9.

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 139-40 there is a list of 60 books dating from 1891 to 1921 on oils, essential oils, varnish and resins.

Mittel zur entfernung alter lackanstriche sog. Abbeizmittel. 1919. Marschalk. Kunststoffe v 9, p 19-23, 35-7.

A tabulation of 145 patents with notes on paint and varnish removers.

Paints, pigments, varnishes and resins. 1916. R. S. Morrell. Soc Chem Ind annual repts appl chem v 1, p 180-96.

Reviews the literature for 1916 and gives 93 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1917. R. S. Morrell. Soc Chem Ind annual repts appl chem v 2, p 322-36.

Reviews the literature for 1917 and gives 57 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1918. L. M. Nash. Soc Chem Ind annual repts appl chem v 3, p 286-97.

Reviews the literature for 1918 and gives 47 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1919. J. H. B. Jenkins. Soc Chem Ind annual repts appl chem v 4, p 300-14.

Reviews the literature for 1919 and gives 79 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1920. A. de Waele. Soc Chem Ind annual repts appl chem v 5, p 309-31.

Reviews the literature for 1920 and gives 173 bibliographical footnotes.

Paints, pigments, varnishes and resins. 1921. H. H. Morgan. Soc Chem Ind annual repts appl chem v 6, p 330-52.

Reviews the literature for 1921 and gives 106 bibliographical footnotes.

Some books on paints and varnishes and wood finishing. 1923. Forest Products Laboratory Tech note 195.

Lists 47 references.

Varnish removers. See Paint removers.

Vinegar

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 131-2 there are 25 references on the analysis of vinegar. 1899 to 1911.

Viscose silk. See Silk, Viscose

Viscosity

Fluidity and plasticity. 1922. E. C.ingham McGraw-Hill, N.Y. 435p.

Bibliography on p 347-429 of more than 1500 references, with author index, on internal friction, diffusion, viscosity, fluidity, colloidal solutions and lubrication.

General theory of viscosity of two phase systems. 1913. Emil Hatschek. Faraday Soc Trans v 9, p 80-92.

There are 12 references on p 92.

Viscosity of blast furnace slag and its relation to iron metallurgy including a description of a new method of measuring slag viscosity at high temperatures.

1917. Alexander L. Feild. Faraday Soc Trans v 13, p 3-35.

Has more than 80 bibliographical footnotes.

Viscosity temperature curves of fractions of typical American crude oils. 1921. E. W. Dean and F. W. Lanc. J Ind & Eng Chem v 13, p 779-86.

Bibliography on p 786 of 36 references on the viscosity and fluidity of oils and other liquids.

Vitamines

Factors influencing the vitamine content of foods. 1921. R. A. Dutcher. J Ind & Eng Chem v 13, p 1102-4.

There are 18 references on p 1104.

Foods. 1921. G. W. Monier-Williams. Soc Chem Ind annual repts appl chem v 6, p 470-97.

Has 85 footnote references covering the year 1921. Abstracts are given in the text.

L'alimentation dans ses rapports avec le besoin qualitatif d'azote et les facteurs accessoires de la nutrition. 1922. A. Blanchetière. Chimie & Ind v 8, p 346T-60T.

219 references on amino acids and vitamines are given on p 358T-60T.

Margarine. 1920. William Clayton. Longmans, Green, London. 187p.

Bibliography on p 144-79; oils and fats used in the manufacture of margarine, p 144-50; edible hydrogenated oils, p 150-1; examination of milk, pasturization, sterilization and inoculation, p 151-6; artificial milk, p 156; theory of emulsification, butter, renovated butter, p 157-62; analysis of butter and margarine, p 163-72; deterioration of butter and margarine in storage, use of preservatives, p 173-6; nutritional chemistry and vitamines on p 176-9. In all about 700 references.

Vitamines. 1922. H. C. Smith and S. L. Smith. Chem Cat Co, N.Y. 270p.

There is a bibliography of almost 1000 references on p 235-60.

Vulcanization

Analysis of rubber. 1922. John B. Tuttle. Chem Cat Co, N.Y. 155p.

An extensive bibliography of 501 references is given on p 121-38. Arranged by author and deals with the analysis of rubber; chemical and physical testing; vulcanization and the use of accelerators.

Beitrag zur kenntnis der kaltvulkanisation des kautschuks. 1912. Gustav Bernstein. Kunststoffe v 2, p 287-92.

Has 22 bibliographical footnotes on the study of cold vulcanization of rubber.

Chemistry of rubber vulcanization and acceleration. 1922. C. W. Bedford. J Ind & Eng Chem v 14, p 856-7.

Has 24 bibliographical footnotes covering the years 1916 to 1922.

Patente betreffend die beschleunigung der vulkanisation von natürlichen oder künstlichen kautschukarten. 1922. S. Halen. Kunststoffe v 12, p 147-9.

A list of 30 patents with brief notes on the acceleration of the vulcanization of natural or synthetic rubber.

Studies in rubber vulcanization. The relation between chemical and physical state of rubber vulcanized in the presence of certain organic accelerators. 1922. N. A. Shepard and Stanley Krall. J Ind & Eng Chem v 14, p 951-6.

Has 30 bibliographical footnotes.

Tabellarische uebersicht über die aus der patent literatur bekannten verfahren und vorrichtungen zum vulkanisieren des kautschuks, der guttapercha oder dgl. 1912. Oskar Kausch. Kunststoffe v 2, p 363-8, 386-8.

Lists British, American and German patents on methods of vulcanizing rubber, gutta percha, etc.

Über die vulkanisation des kautschuks. 1923. Eduard Färber. Chem Zeit v 47, p 595-7.

Has 22 bibliographical footnotes on the vulcanization of rubber.

W

Waste in industry

Progress report of committee on industrial wastes in relation to water supply. 1923. Am Water Works Assoc J v 10, p 415-30.

On p 428-30 there are 35 references on industrial wastes and their effect upon water supply.

Selective bibliography on waste utilization as affected by the war. 1919. E. D. Greenman. J Ind & Eng Chem v 11, p 1171-2. Also issued as a separate by A. D. Little, Inc., Cambridge, Mass.

A list of 65 references from 1915 to 1918.

Waste water

Abwasserbeseitigung von gewerben und gewerberichen städten unter hauptsächlicher berücksichtigung Englands. 1909. Albert Schiele. Mitt Prüf Wasserversorg Berlin v 11, 932p.

There are 80 references on p XXV-XXVII on the purification of sewage, factory waste water, etc.

Water analysis

Bacteria fermenting lactose and their significance in water analysis. 1921. Max Levine. Iowa State Col Agr & Mech Arts v 20, no 31, 127p.

On p 119-27 there are 205 references on water bacteriology, bacterium coli and lactose ferments.

Die quantitative eisenbestimmung im wasser. 1909. Klut. Mitt Prüf Wasserversorg Berlin v 12, no 2, p 174-82.

Has 24 bibliographical footnotes on the determination of iron in water.

Engineering chemistry: a manual of quantitative chemical analysis for use of students, chemists and engineers. 1910. Thomas B. Stillman. Chem Pub Co, Easton, Pa.

Numerous references are scattered throughout the text on the analysis of substances as: oils, fuels, paints, water, lubricants, boiler scale, ores, alloys, gases, paper, soap, etc.

Mineral waters in 1921. 1923. W. D. Collins. Mineral Resources U S 1921 pt 2, p 229-36.

On p 236 there are 16 references on the analysis of mineral waters.

Nachweis und bestimmung von mangan im trinkwasser. 1909. Klut. Mitt Prüf Wasserversorg Berlin v 12, p 183-94.

Has 56 bibliographical footnotes on the determination of manganese in drinking water.

Notes for the determination of water in petroleum and its products. 1912. I. C. Allen and W. A. Jacobs. U S Bur Mines Tech Pa 25, 13p.

Has 42 bibliographical footnotes.

Public water supplies. 1909. F. E. Turneaure and H. L. Russell. Wiley, N.Y. 808p.

There are bibliographies at the ends of the various chapters. Deals with all phases of water supply, analysis and purification.

Water glass

Water-glass. A bibliography. 1922. Morris Schrero. Carnegie Library of Pittsburgh. 83p.

Arranged in sections by authors. Sections deal with patents, manufacture, applications and analysis.

Water pipes

Ueber die verwendung von verzinkten eisenrohren und zinkrohren als ersatz für bleirohre bei hauswasserleitungen. 1912. O. Kroehnke. J für Gasbel v 55, p 421-9.

Bibliography of about 250 references on p 426-9, from 1886 to 1912. On lead and galvanized pipe for water supply, effect of the material on the water and effect of the water on the pipe.

Water purification

Bibliography on water softening. 1904. In Pittsburgh Carnegie Library mo bul v 9, p 165-72.

Books on purification of water. 1916. Munic Eng v 50, p 56-7.

Lists about 30 books with extensive descriptions of each.

Chemistry of sanitation. 1922. A. M. Bushwell. J Ind & Eng Chem v 14, p 840-2.

On p 842 there are 41 references on the production of potable water, stream pollution and sewage purification. 1917 to 1922.

Der basenaustausch im permutit. 1918. V. Rothmund and G. Kornfeld. Zeit anorg Chem v 103, p 129-63.

More than 75 references to the most important articles and books on artificial aluminum silicates and related subjects are given on p 160-3. There are also many bibliographical footnotes throughout the article.

Determining hydrogen ion concentration for filter plant operation. 1923. W. D. Hatfield. Am Water Works Assoc J v 10, p 298-303.

There are 10 references on p 303.

Hydraulics, sanitation, public health. 1917. D. K. Boyd. Am Inst Arch J v 5, p 459-71.

About 250 references on water supply and treatment, plumbing, swimming pools, sewage disposal, sanitation, etc.

Hydrogen ion concentration and water supply problems. 1922. F. Hannan. Am Water Works Assoc J v 9, p 39-45.

There are 42 references on p 44-5.

Neuere beobachtung bei geschlossenen enteisenungsanlagen. 1922. Hartung Klut. Gas & Wasserfach v 65, p 527-31.

Gives 47 bibliographical footnotes on the purification of water in general and the removal of iron from water in particular.

Neuere wasserversorgungsanlagen der preussisch-hessischen staatsisenbahnen. 1914. C. Guillery. Springer, Berlin.

On p 136-7 there are 25 references with notes on water supply and purification.

Water purification—Continued

Progress report of committee on industrial wastes in relation to water supply. 1923. Am Water Works Assoc J v 10, p 415-30.

On p 428-30 there are 35 references on industrial wastes and their effect upon water supply.

Public water supplies. 1909. F. E. Turneaure and H. L. Russell. Wiley, N.Y. 808p.

There are bibliographies at the ends of the various chapters. Deals with all phases of water supply, analysis and purification.

Removal of iron from municipal water supplies. 1916. J. W. Schwab. Kansas U Eng Bul 7. 41p.

On p 38-41 there is a list of 109 references on iron removal from water, including references to American iron removal plants.

Sanitation and water purification. 1920. H. T. Calvert. Soc Chem Ind annual repts appl chem v 5, p 471-85.

Reviews the literature for 1920 and gives 46 bibliographical footnotes.

Sanitation and water purification. 1921. H. T. Calvert. Soc Chem Ind annual repts appl chem v 6, p 498-516.

Reviews the literature for 1921 and gives 71 bibliographical footnotes.

Some facts about residual alum in filtered water. 1922. A. M. Bushwell and G. P. Edwards. Chem & Met Eng v 26, p 826-9.

Bibliography on p 829; 25 references chiefly for the years 1920 and 1921 on the chemistry of the alum coagulation process.

Use of acids with alum in water purification and the importance of the hydrogen ion concentration. 1923. John R. Baylis. Am Water Works Assoc J v 10, p 365-92.

There are 18 references on p 392.

Water and sewage purification. 1919. A. C. Houston. Soc Chem Ind annual repts appl chem v 4, p 465-88.

Reviews the literature for 1919 and gives 13 bibliographical footnotes.

Water purification. 1917. Joseph W. Ellms. McGraw-Hill, N.Y. 485p.

References are given at the ends of the chapters on all phases of water purification.

Water purification and sanitation. 1916. F. R. O'Shaughnessy. Soc Chem Ind annual repts appl chem v 1, p 260-70.

Reviews literature for 1916 and gives 24 bibliographical footnotes.

Water purification and sanitation. 1917. S. Rideal. Soc Chem Ind annual repts appl chem v 2, p 449-67.

Reviews the literature for 1917 and gives 43 bibliographical footnotes.

Water purification and sanitation. 1918. Edward Arden. Soc Chem Ind annual repts appl chem v 3, p 417-29.

Reviews the literature for 1918 and gives 26 bibliographical footnotes.

Waterproofing

Bituminous materials, waterproofing and damp-proofing. 1917. Am Inst Arch J v 5, p 576.

Has about 10 references.

Damp-proofing, waterproofing and under-water construction. 1918. Am Inst Arch J v 6, p 44-6.

Has about 50 references mainly on the waterproofing of concrete.

Herstellung wasserdichter und feuersicherer stoffe durch imprägnieren von gewebe. 1912. Oscar Kausch. Kunststoffe v 2, p 29-31, 52-4, 88-93.

Reviews the patent literature on waterproofing and fireproofing of textiles.

Plastics and molded electrical insulation. 1923. Emile Hemming. Chem Cat Co, N.Y. 313p.

On p 42-90 there are about 650 annotated U.S. and foreign patents on gypsum, plaster of Paris, stucco and similar compositions, slag cements, silicates and siliceous materials, white cement, dental compositions, portland cement and materials containing it, regulation of the time of setting of cement, waterproofing cement, various compounds with calcareous bases, oxychloride and other oxysalt compounds.

Waterproofing and damp-proofing. 1917. Am Inst Arch J v 5, p 38-9.

Has about 30 references.

Waxes

Chemical technology of oils, fats and waxes. 1921. J. Lewkowitsch. Macmillan, London. 3 v.

Contains numerous bibliographical footnotes throughout the entire text.

Methods of organic analysis. 1919. Henry C. Sherman. Macmillan, N.Y. 407p.

On p 172-3 there are 50 references from 1900 to 1911 on the analysis of oils, fats and fatty acids.

Oils, fats and waxes. 1916. G. H. Warburton. Soc Chem Ind annual repts appl chem v 1, p 165-79.

Reviews the literature for 1916 and gives 63 bibliographical footnotes.

Oils, fats and waxes. 1917. E. R. Bolton and Cecil Revis. Soc Chem Ind annual repts appl chem v 2, p 305-21.

Reviews the literature for 1917 and gives 88 bibliographical footnotes.

Oils, fats and waxes. 1918. Cecil Revis and E. R. Bolton. Soc Chem Ind annual repts appl chem v 3, p 261-85.

Reviews the literature for 1918 and gives 84 bibliographical footnotes.

Oils, fats and waxes. 1919. G. H. Warburton. Soc Chem Ind annual repts appl chem v 4, p 281-99.

Reviews the literature for 1919 and gives 70 bibliographical footnotes.

Oils, fats and waxes. 1920. John Allan. Soc Chem Ind annual repts appl chem v 5, p 291-308.

Reviews the literature for 1920 and gives 60 bibliographical footnotes.

Oils, fats and waxes. 1921. John Allan. Soc Chem Ind annual repts appl chem v 6, p 317-29.

Reviews the literature for 1921 and gives 54 bibliographical footnotes.

Technische wachspräparate. 1919. E. J. Fischer. Kunststoffe v 9, p 105-9.

Lists patents with brief notes on preparations in wax.

Welding

Aluminum and its light alloys. 1919. U S Bur Stand Circ 76, p 109-20.

Has 506 references on the chemical and physical properties, corrosion, welding, etc. of aluminum alloys.

Bibliography of electric welding. 1918. William F. Jacob. Gen Elec Rev v 21, p 652-8.

Has more than 200 references. Covers the period 1914 to 1918. Includes references to theory, uses, methods of application, costs, etc.

Electric arc welding apparatus and equipment. 1923. J. Caldwell. Inst Elec Eng J v 61, p 253-77.

There are 50 references on p 265-6.

Electric arc welding of steel. 1920. Henry S. Rawdon and others. U S Bur Stand Tech Pa 179, 63p.

On p 60-3 there are 27 references on mechanical tests, structure of metal of weld, and 25 references on nitrogen in iron and steel. 1887 to 1920.

High temperature flames in metal working. 1915. H. R. Swartley. Int Eng Cong 1915, San Francisco Mech Eng volume p 164-86.

On p 184-5 there is a list of 25 references on oxyacetylene welding.

List of references on electric welding of cast iron, 1917 to 1921. 1922. Am Weld Soc J v 1, p 69-71.

Contains 28 references with brief notes.

List of works in the New York Public Library relating to electric welding. 1913. W. B. Gamble. New York Public Library Bul 17, p 375-95

List of works in the library relating to oxyacetylene welding. 1914. New York Public Library Bul Oct 1914, 34p.

Has 487 references and covers the period from 1893 to Oct 1914.

Strength of oxyacetylene welds in steel. 1910. H. L. Whittemore. Ill U Eng Exp Sta Bul 45, 65p.

There are 27 references without notes covering the period 1903 to 1908.

White lead

Manufacture of white lead. 1913. C. A. Klein. Paint & Varnish Soc Pa v 5, p 9-45.

On p 44-5 there are 59 references to sources of information quoted in the text.

Whitney, Willis R.

Presentation address. 1921. Charles F. Chandler. J Ind & Eng Chem v 13, p 160-1.

Gives a list of 44 papers by Willis R. Whitney.

Wood ashes

Literature of the potash industry, 1912 to 1917. 1918. F. W. Bruckmiller. Chem & Met Eng v 19, p 447-9.

There are 159 references arranged by subject on statistics, kelp, brines, wood ashes, and cement dust.

Wood distillation

Technologie der Holzverkohlung, unter besonderer Berücksichtigung der Herstellung von sämtlichen Halb- und Ganzfabrikaten aus den erstlingsdestillaten. 1910. M. Klar. Springer, Berlin. 429p.

On p 404-19 is a list of about 300 patents

on the distillation of wood, acetic acid, acetone, methyl alcohol, and turpentine. German, Austrian, English, French and U.S. patents are listed.

Wood drying

List of publications on timber physics.

1916. Forest Products Laboratory, pub 49.

Has 61 references on the physics of timber, timber drying, and the selection of timber for various purposes.

Wood preservation

Bibliography of articles relating to the preservation of mine timber. April 1922. R. R. Horner. U S Bur Mines repts invest no 2343, 6p mimeographed.

Has 64 references covering the period 1883 to 1921.

Die in Deutschland patentierten Vorrichtungen zum Imprägnieren des Holzes mit Konservierungsmitteln und Farbstofflösungen. 1913. S. Halen. Kunststoffe v 3, p 224-7, 267-72.

Abstracts German patents on apparatus and methods of impregnating wood with preservatives and dyes.

Handbook on wood preservation. 1916. Published by Am Wood Preservers' Assoc. 73p.

Bibliography of wood preservation on p 56-73 arranged by publications in which articles appeared; about 450 references covering the period from 1887 to 1916.

Handbuch der Holzkonservierung. 1916. Ernst Troschel. Springer, Berlin. 540p.

On p 498-540 there is an exhaustive list of U.S. and foreign patents, classified according to methods of protecting and impregnating wood.

Konservierung und Veredelung des Holzes durch Imprägnierung mit Chemikalien. 1919. S. Halen. Kunststoffe v 9, p 45-8.

Gives abstracts of 45 patents on preservation of wood by impregnation issued since the beginning of the World War.

Mittel zum Füllen der Holzporen beim Grundpolieren. 1919. M. Schall. Kunststoffe v 9, p 48-9.

Has 23 patents with annotations on wood impregnation.

Preservation of structural timber. 1916. H. F. Weiss. McGraw-Hill, N.Y. 361p.

On p 276-97 there are 360 U.S. patents on wood preservation.

Preservative treatment of timber. 1915. H. F. Weiss. Internat Eng Cong, San Francisco, materials of engineering volume pa no 99, p 116-59.

On p 126-7 there is a partial bibliography of the American wood preserving industry consisting of 21 references. On p 138-59 there is a list of records on the life of treated timber in the U.S.

Schutz des Holzes gegen Fäulnis durch Anstriche und Ueberzüge. 1915. Friedrich Moll. Kunststoffe v 5, p 169-71, 182-5, 210-12, 219-22.

Gives abstracts from the literature and patents on the prevention of decay of wood by painting and coating.

Timber, lumber, wood construction and finish. 1918. D. K. Boyd. Am Inst Arch J v 4, p 201-9.

Has about 250 references on timber and lumber, its branding, conservation, treatment, preservation, etc.

Wood preservation—Continued

Treatments of wood; preservatives and fire retardants. 1917. *Am Inst Arch J* v 5, p 253-5.

Has about 80 references to flooring, pavement, piling, piers, bulkheads, etc.

United States patents on wood preservation; Jan 1, 1880 to Mar 31, 1916. 1916. D. D. Berolzheimer. *Am Woodpreservers' Assoc Pro* v 12, p 403-8.

Contains about 300 patents; these patents supplement the list published in the 11th Annual Proc. p 482-500.

Verfahren zum schutz des holzes und der gewebe gegen feuer. 1915. Friedrich Moll. *Kunststoffe* v 5, p 1-4, 15-18, 39-41, 52-3.

A list of patents of all countries with notes, on fireproofing wood and textiles.

Verfahren zur behandlung des holzes mit chemikalien zum zwecke gegen die verschiedensten einflüsse beständige produkte zu erzeugen. 1912. S. Halen. *Kunststoffe* v 2, p 424-8, 440-54, 461-6.

A list of patents with brief notes on chemical processes for the preservation of wood.

Verfahren zur behandlung des holzes mit chemikalien. 1917. Marschalk. *Kunststoffe* v 7, p 60-2.

Gives 33 patents with abstracts on wood impregnation.

Wood products

Industrial organic chemistry. ed 5. 1923. Samuel P. Sadtler and Louis J. Matos. Lippincott, Philadelphia. 691p.

On p 427 there is a list of 11 books on wood products dating from 1880 to 1909.

Wood pulp

Bibliography of pulp and paper industry. 1913. H. E. Surface. *U S Forest Service bul* 123. 48p.

Dyeing of pulp and paper. Bibliography. 1921. C. J. West. *Paper Tr J* v 72, May 12, p 46+.

Contains about 180 references with annotations.

Electricity in pulp and paper mills. Bibliography. 1923. C. J. West. *Paper Tr J* v 76, Feb. 22, 1923, p 50-3.

Contains about 120 references with some annotations.

Forest products, their manufacture and use; embracing the principal commercial features in the production, manufacture, and utilization of the most important forest products other than lumber in the United States. 1919. Nelson C. Brown. Wiley, N.Y. 471p.

Bibliographies at the ends of chapters. Deals with wood pulp and paper, tanning, naval stores, wood distillation, sugar, etc.

Government paper bibliography: United States government publications pertaining to pulp and paper. Supplement no 1. Helen E. Stockbridge. *Paper v* 22, no 11, May 22, 1918, p 38, 40.

Supplementary to the bibliography by Henry E. Surface. Has 26 references.

Literatur der zellstoff- und papierindustrie. 1921. Carl G. Schwalbe. *Zellstoff und Papier* v 1, p 261-74.

Classified abstracts of the literature of the pulp and paper industries for 1921, dealing with the chemical aspect of the question.

Plastics and molded electrical insulation. 1923. Emile Hemming. *Chem Cat Co*, N.Y. 313p.

On p 136-49 there are about 180 annotated U.S. and foreign patents on miscellaneous plastics and pulp and fibre compositions.

Pulp and paper research problems. Investigations planned and accomplished by the Forest Products Laboratory. 1920. *Paper v* 26, Apr 21, p 54, 56, 60, 62.

Bibliography of special fibres for pulp and paper purposes on p 60, 62, has 17 references.

Recent literature on soda and sulphate pulps. 1921. C. J. West. *Paper Tr J* v 73, Oct. 20, p 46+; Oct 27, p 42+.

Has about 150 references with extensive notes; this list is a continuation of bibliography by Textor, q.v.

Sulphate pulp and kraft paper: list of references covering the literature up to 1912. 1921. C. K. Textor. *Paper Tr J* v 73, July 28, p 46+; Aug 11, p 46; Aug 18, p 54+.

Has about 250 references with extensive notes; covers period from 1880 to 1912.

Ueber papier und zellstoffmassen. 1916. Halle. *Kunststoffe* v 6, p 269-73, 289-92, 304-11.

A tabulation of 259 patents with brief notes on paper and pulp.

United States government publications pertaining to pulp and paper. 1916. Henry E. Surface. *Paper v* 19, no 4, p 25-30.

This is a second edition revised and enlarged of a bibliography that appeared in *J Ind & Eng Chem* v 5, p 614-16. Has 100 references with notes.

Wärmetechnische und wärmwirtschaftliche untersuchungen aus der sulfitzellstoff-fabrikation. 1916. J. F. v. Lassberg. Springer, Berlin. 88p.

There are 41 references on p 87-8 on the thermal study of sulphite pulp manufacture.

Wood pulp and its uses. 1911. C. F. Cross and others. Van Nostrand, N.Y. 275p.

Bibliography on p 263-4 has 20 references with brief annotations. Dates from about 1895 to 1905.

Wood substitutes

Holzersatzmassen. 1917. E. J. Fischer. *Kunststoffe* v 7, p 233-5, 244-8.

Lists 164 patents on wood substitutes.

Verfahren zur herstellung von kunststoffe oder holzersatzmassen. 1913. Oscar Kausch. *Kunststoffe* v 3, p 349-51.

A tabulation of patents with brief notes on wood substitutes.

Wood waste

Manufacture of ethyl alcohol from wood waste. 1922. F. W. Kressmann. *U S Dept Agr Bul* 983. 101p.

On p 98-100 there are about 140 patents, and on p 101 there are 53 references on the manufacture of alcohol and other products from wood.

Wool

Bibliography of wool and the woolen manufacture. 1891. *Nat Assoc Wool Mfgers Bul* v 21, p 118-34.

Has 150 references with brief notes.

Sterilisation von wasser mittels ultravioletten strahlen. 1911. Grimm and Welter. Mitt Prüf Wasserversorg Berlin v 14, no 3, p 85-102.

There are 28 references on water sterilization on p 101-2.

X

X rays

Examination of materials by X-rays. 1919. Faraday Soc Trans v 15, pt 2, p 1-24.

About 75 references are given on p 19-24. II nucleo atomico. 1921. Rita Brunetti. Nuovo Cimento v 22, p 215-45.

On p 242-5 there is a bibliography of 71 references on the radiation of X-rays, disintegration of alpha particles of atomic nuclei, Moseley's law and Bohr's theorem, and equivalence and relativity theories.

Ionizing potential of an X-ray tube. 1915. E. C. Drew. J Fr Inst v 179, p 697-709.

There are 12 references on p 709.

New method of crystal analysis and the reflection of characteristic X rays. 1923. George L. Clark and William Duane. Optical Soc Am J v 7, p 455-82.

There are 20 references on p 482.

Radiometallography. 1919. Robert Hadfield. Unwin, Woking.

Bibliography on X-rays chiefly in its relation to radiometallography on p 19-24. About 60 references from 1913 to 1918.

Xylose

Sources of the rare sugars. Xylose. 1923.

T. Swann Harding. Sugar v 25, p 124-5.

There are 23 references on p 125.

Y

Yeast

Biochemical catalysis in life and industry: proteolytic enzymes. 1917. Jean Effront; tr. by Samuel Prescott and Charles S. Venable. Wiley, N.Y. 752p.

There are a number of bibliographies at the ends of the various sections totalling several thousand references on enzymes and albuminoids in general, coagulating enzymes, pepsin, trypsin, erepsins, amidases, their applications in medical treatment, bread-making, cheeses, yeasts, brewing, tanning, fertilizers and soil catalysis; recovery of nitrogenous wastes and artificial nitrogenous foods.

Yttrium

Metals of the rare earths. 1919. James F. Spencer. Longmans, Green. London.

References are given on p 241-62. More than 1029 references dating from 1800 to 1918 on cerium, yttrium and the thorium group.

Neue arbeiten auf dem gebiete der seltenen erden und ihre verbindungen. 1921. S. Halen. Edel Erden & Erze v 2, p 185-6.

Outlines the literature of the rare earths in general, then that on cerium, yttrium, gadolinium, holmium, scandium and samarium for the years 1917 to 1920.

Wave lengths longer than 5500A in the arc spectra of yttrium, lanthanum and cerium, and the preparation of pure rare

earth elements. 1921. C. C. Kiess and others. U S Bur Stand Sci Pa 421, v 17, p 317-51.

Contains about 35 bibliographical footnotes.

Z

Zinc

Electrolytic corrosion of some metals. 1911. G. R. White. J Phys Chem v 15, p 723-92.

About 60 footnote references dealing with the electrolytic corrosion of zinc, copper, tin, lead, nickel and cadmium.

Organometallic compounds of zinc and magnesium. 1913. Henry Wren. Van Nostrand, N.Y. 100p.

A bibliography of 201 references is given on p 93-8.

Zinc. 1921. Great Britain mineral resources bureau. Mineral industry of British Empire and foreign countries, London. 112p.

There are 400 references on p 91-104 on zinc, resources, mining, metallurgy, uses and alloys. Covers the war period 1913 to 1919.

Zinc dust precipitation tests. References. 1915. Nathaniel Herz. Am Inst Min Eng Trans v 52, p 138-46.

Has 15 references on the metallography of zinc alloys from 1896 to 1914 on p 146.

Zinc industry. 1918. Ernest A. Smith. Longmans, Green, London. 223p.

There are 125 references on the metallurgy of zinc, zinc alloys, brasses, "nickel-silver," zinc-aluminum, from 1902 to 1917, on p 213-21.

Zinc analysis

Bibliography of methods of estimation of zinc. 1912. J Ind & Eng Chem v 4, p 468-9.

Dates from 1890 to 1911. Has about 125 references.

Technical assay of zinc. 1909. H. W. Greenwood and F. J. Brislee. Inst Metals J v 2, p 249-61. Also Metal Ind (London) v 1, p 150-3.

Contains 12 references.

Zinc dust analysis. 1918. L. A. Wilson. Am Soc Test Mat Pro 21st annual meeting pt 2, p 234. Also Eng & Min J v 106, p 145.

Contains 25 references on the evaluation of zinc dust.

Zinc blende

Bibliography on the formation of ferrites in roasting blende. 1913. G. S. Brooks. Am Inst Min Eng Trans v 45, p 222-3.

Has 19 references.

Chemischen vorgänge bei der abrüstung der zinkblende. 1923. Krantz. Metall und Erz v 20, p 65-74.

There are about 60 references on p 65-6 on the chemistry of roasting zinc blende.

Zinc, electrodeposition

A study of the throwing power and current efficiency of zinc plating solutions. 1922. W. G. Horsch and F. Tyler. Am Electrochem Soc Trans, advance paper April 27, 1922.

There is a bibliography of 35 references at the end of the paper

Zinc, electrodeposition—Continued

Electrodeposition of zinc from aqueous solutions. 1917. E. P. Mathewson. Canadian Min Inst Trans v 20, p 135-60.

On p 137-57 there are about 250 references from 1880 to 1916 on the electrolysis of zinc and zinc electrometallurgy. These references have brief notes.

Hydrogen overvoltage and current density in the electrodeposition of zinc. 1922. V. C. Tainton. Am Electrochem Soc Trans, advance paper, April 27, 1922.

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Électrometallurgie du zinc. 1922. Gojon and Lemarchands. Chimie & Ind v 8, p 186T-203T.

On p 203T there are 18 references on the electro- and electrolytic reduction of zinc.

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Metallurgy of zinc and cadmium. 1922. H. O. Hofman. McGraw-Hill, N.Y. 341p.

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Pressure smelting of zinc ores not a success. 1921. B. M. O'Harra. Eng & Min J v 112, p 605.

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Zinc industry. 1918. Ernest A. Smith.

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There are 125 references on the metallurgy of zinc, zinc alloys, brasses, nickel silver, zinc-aluminum, from 1902 to 1917, on p 213-21.

Zirconium

Carbon and its allies. 1917. Robert Martin Cavin. Griffin, London. 468p.

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On p 119-44 there is a bibliography of more than 440 references on zirconium metallic alloys, analysis, minerals and preparation, properties and uses of zirconium salts.

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